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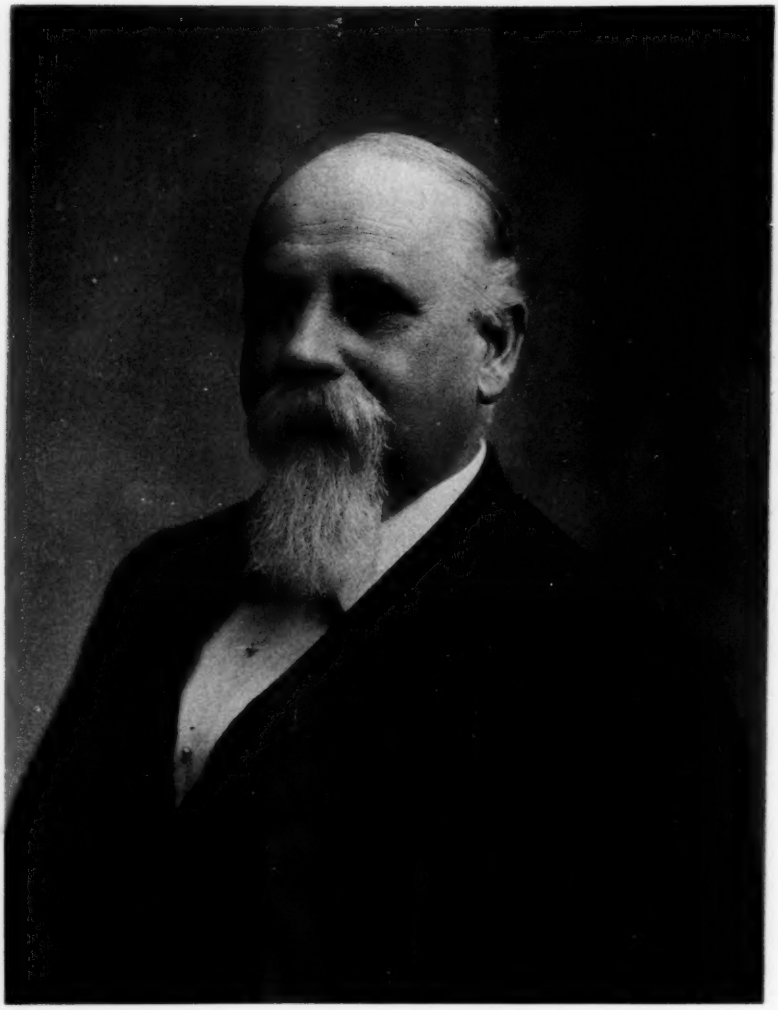

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Very truly Yours

J. B. Andrews

AMERICAN
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ADDRESS OF THE RETIRING PRESIDENT OF "THE ASSOCIATION OF MEDICAL SUPERINTENDENTS OF AMERICAN INSTITUTIONS FOR THE INSANE."*

BY DANIEL CLARK, M. D.,
Superintendent of the Asylum for the Insane, Toronto, Ontario.

GENTLEMEN—My accomplished predecessor in this chair told you last year how great had been his difficulty in selecting a subject for his retiring address, on account of the able treatment of almost all topics in the line of our work by previous presidents of this Association.

This task of selection has been greatly increased in my case, seeing that his masterly effort is now added to this symposium of the past.

After looking the field over it has seemed to me that it would not be unprofitable to discuss for a brief time the doctrines of the two great schools of thought which stand to-day in antagonism to one another in respect to the relationship of mind and body, and to endeavor to find out if they have not, to a large extent, much common ground over which no controversy should take place.

It is evident to me that there is much confusion in respect to definitions, and less in respect to interpretations of phenomena. I need scarcely say that this subject is germane to our work in the care and treatment of the insane.

If insanity be a fixed physical disease, which affects and controls abnormally the language and conduct of the individual, then is aught appertaining to mind and its organ of paramount

* Read at he Forty-sixth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Washington, D. C., May 3, 1892.

importance to us. We judge of insanity by its abnormal mental manifestations, yet we treat it through physical conditions; hence the importance of studying psychiatry in relation to mental physiology. Every thing connected with the life history of the individual is a matter not only worthy of our study but is necessary to a successful prosecution of our work among the insane.

Sanity must be put in juxtaposition to alienation, in order to enable us to measure the mental standard of any man. It is a matter of comparison and relationship.

We cannot know what is abnormal unless we have a normal standard to go by, although, philosophically speaking, there is no abnormality in nature anywhere, as everything is under the reign of law.

Throughout the centuries a verbal war has been carried on, over the relation which mind and body bear to one another, and what influence one has on the other; there have been two sides to the shield, and each disputant has claimed that his field of vision is the only correct area of primary investigation.

The pendulum of speculation has swung from one extreme point of a segment of the great circle of truth to the other. It has scarcely ever halted in its transition movements at the mean between the two farthermost positions of antagonism.

It has been ever thus in all the fields of varied controversy. The duality of man in one form or another has been an accepted doctrine from the earliest period of human history.

The prevailing conception among the lower races, including even most of the ancient Greek philosophers, and the early Christian fathers, was that body and soul were two material substances of different degrees of density, and with different qualities of existence.

In the days of Socrates, Plato, Xenophon and Aristotle; among the later Christian fathers, especially since the days of Augustine; by the schoolmen, and up to the present day, it was and is held that man is either a dualism of mind and body or a trinity of spirit, soul and body—the former opinions meaning simply that body is a gross form of matter, and the latter that mind is a substance but not matter; the former as being tangible and visible, and the latter being an entity having none of the properties of matter except existence, and possessing neither primary nor secondary qualities.

In the latter days an old theory has been revived by modern physiologists, which is simply that all is matter, mind is only a secretion or a function of nerve activity, nerve action being causal, and mentality being the effect. The materialistic physiology of to-day insists upon the doctrine of monism, inasmuch as the whole man is only matter, and psychic power one of its manifold manifestations. This view led Fichtè, Spinoza and their school into pantheism; the Divine mind and man's not being analogous, but identical; and so matter was God and God matter. This pantheistic idealism is boldly stated in Shelly's "Queen Mab:"

> "Infinity within, Infinity without,
> Belie Creation.
> The inexterminable spirit it contains
> Is Nature's only God."

Upon this doctrine of unity foreshadowed by Lucretius in his wonderful poem "De Rerum Natura," and by Plato before the Christian era, is founded the monistic doctrine of Carpenter, Herbert Spencer, Darwin, Huxley, Romanes, Maudsley, Beale, Lewis and Tyndall.

It is interesting to note the history of these great movements of thought, and to see that after all, so much that is called new is only old opinions considered from new standpoints. The old writers labored among metaphysical speculations, and the latter based their opinions upon physical phenomena. It is worthy of observation in the history of psychology how extreme views not only were in antagonism throughout the centuries, but how they also came into juxtaposition at certain points of their history.

We can correctly label the landmarks of human history simply from a knowledge of the schools of thought in the various epochs of man's progress. This is the age of a renewed form of materialism based on biology, instead of existing in the shifting sands of metaphysical subtlety. At this hour, on the other hand, a school of thought exists which denies that brain functionates all mental processes. It denies that the personal I is only a congeries of functions, whose fountain head is a nerve molecule or monad. In fact, it refuses to believe in the existence of matter altogether, except as a phenomenon of mind, and rules the material world out of being, except as a concept.

Stallo, of Cincinnati, in his able work on "Concepts of

Modern Physics," voices the opinions of these modern thinkers and treats with scorn the doctrines of modern physiologists in respect to mental phenomena in relation to gross matter.

This is seen in such opinions as the following, viz: "Neither mass nor motion is substantially real, but both are concepts or rather constituents of a concept matter. They are ultimate products of generalization. Matter is the *summum genus* of the classification of bodies on the basis of their physical and chemical properties. It is not, therefore, a real thing, but the ideal complement of two attributes, belonging to all bodies alike," (page 149.) This school sneers at what is called the atomo-mechanical theory of Tyndall and Huxley, in which is the Lucretian idea that "matter has in it the promise and potency of every form and quality of life;" in which is also an old idea of Bacon and Schelling. The latter says "Matter is the general seed-corn of the universe, wherein every thing is involved that is brought forth in subsequent evolution."

Stallo says that these mechanical theories "take not only the ideal concept matter, but its two inseparable constituent attributes, and assume each of them to be a distinct and real entity," (page 150, supra.) The one class of thinkers knows of nothing but matter and its manifestations, and the other has no conception of anything but mind and its operations, or, as Hegel puts it, "All things are evolved from Being and that universal being is wholly devoid of attributes." As was said in the days of Locke and Hume, one reasons away mind, and the other matter, so we have nothingness as a resultant, and as a corollary they leave to us an alleged concept to which they give the term Zero, or nothingness.

These are the doctrines of philosophers, and yet they do not occupy permanently the wards of hospitals for the insane. Here we have man on the one hand as a mere automaton with nerve ganglia as the supreme cause of psychic life; all mental phenomena being *per force* the resultant of nerve causation. On the other hand it is asserted that there is nothing but a void in the universe, or, at best, only mentality. The former makes sensation, volition, emotion, consciousness, and moral judgment productions of nerve vitality. The latter makes these mental phenomena the sum total of existence. By the former spontaneity of mind is believed to be a phantasm of metaphysicians.

Man is ruled by the external influences, from the thraldom of which there is no manumission, being, as Emerson would say, in "the hands of the cherubim of destiny." By the latter it is stated there is no world except a unit of mental activities.

I remember when I was a young man at college reading the controversy which was going on at that time on the theological dogma of predestination and free-will. I got hold of a work of Jonathan Edwards "On the Will." His work is a marvel of metaphysical logic to prove that man had no free will, but was guided in all his actions by the influence of what he called "external motives." Man had no spontaneousness of will, but was of necessity innately created for good or evil. He was good enough to say that we had our life history modified very much by education, experience and what we now-a-days call "environment." In spite of these sunny glints we were doomed to weal or woe because of want of volition; that is how I remember this remarkable book. One of his opponents gave the example of a man standing hungry and wistful between two loaves of bread of equal appearance and attractivness. The external motives being equal and there being no free will to choose either of them, the man must of necessity starve to death in the midst of plenty. The opponent to Edwards' doctrine of fatalistic necessity fairly argued that the man would soon break through these so-called equal attractions with a spontaneous alacrity which would astonish the New England divine. There was hunger urging and bread was wanted to allay it, so no mere equable external attractiveness would hinder prompt choice of one of the alternatives.

Even Tyndall is forced to say "We are woven by a power not in ourselves." Haeckel is forced to say that "Organization is a result of life." Then is life an entity antecedent to its work and does exist independent of it. If that be so in the more primitive chemical as well as the vital forces, then why deny it in the psychic force, seeing it is more complex than these and has in its manifestations new elements of a higher order than aught below it in the scale of being? The contest is over the definition of I. The monist vehemently asserts that all nerve action or function means the living I, yet he acknowledges its existence as an agent antedating the organ which creates it.

This seems a contradiction in terms, making both effect and cause, or sequent and consequent identical. Herbert Spencer is

forced reluctantly to admit, (Biology, page 167,) that "It may be argued on the hypothesis of evolution, life necessantly comes before organization. On this hypothesis organic matter in a state of homogeneous aggregation must precede organic matter in a state of heterogeneous aggregation. But since passing from a structionless state to a structured state is itself a vital process, it follows that vital activity must have existed while there was yet no structure; structure could not else arise." Lionel Beale says, (Bioplasm, page 209., Ed. 1872,) "The vital power of the highest bioplasm in nature is the living I." Darwin calls this creative power "innate" in defining life. Lewis in his "Physical Basis of Life" holds the same view, as well as does Bastian in his work, "The Brain as an Organ of the Mind." The whole of his school of thinkers acknowledge an agent which must have an existence anterior to its work of organization.

The egoist on the other hand declares that there is an entity called mind, affected by, but not being gross matter, although in intimate relation to it, and capable of exciting it to action in will, emotion or desire. He appeals to our consciousness for proof of our power at will to produce physical effects by exercising volition, and stirring to intensity the affections, not as a secondary but primary cause. He holds that these efforts are initial, and are not primarily sensational in all mental activity.

In such a simple act as that of raising my arm consequent on a volition, if the primary impulse is a command of the nerve molecules to do so, something gave them the hint that this illustration was required at this opportune moment. I am told that my will to do so, is only a function of these molecules, and can not be at any time an initiatory impulse. In some mysterious way they got to know that this movement was required at this particular time. In other words, it is necessary in every volition to suppose a goading primary sensation and consequent reflex action from the power developed. It is held the same is true of memory and the wildest flights of imagination. My will, imaginings, reminiscences and consciousness, are all said to be the *result* of acts of the brain, which determines in an autocratic way their intensity, kind and variety, being amenable to no motive power higher than itself and the laws by which it operates. The I in its multifarious states and activities is merely molecular brain action and is not a personality but a congery of functions.

Mental activity thus becomes a sequence of antecedent brain mechanism, and that the result of sensational experience.

The wild impossibilities of Milton—the creations of Shakespeare—the word picturings of Homer, Tasso, Dante, Scott and Longfellow—the wonderful combinations of Mendelssohn, Handel or Mozart, are only fortuitous presentments of a molecular grand jury, knowing no master *ab extra*, receiving no promptings but through sensation, and heeding no dictation independent of themselves.

As Sully puts it in his "Outlines of Psychology:" "The discussion as to what mind is in itself passes on to that of the relation of mind to its foreign companion, a material organism; and the attempt to interpret the fact of the concomitance between the physical and the psychical has necessarily involved a consideration of the question what mind is as substance. But sometimes the one, sometimes the other question has assumed special prominence." It has been suggested that the properly psychological study of the mind has no tendency to reduce mental phenomena to terms of matter and movement. The fundamental modes of mental manifestation, feeling, knowing, and willing, and the laws which govern their development, are perfectly distinct from the phenomena and laws of the material world.

With respect to the connection between body and mind physiological psychology is in a fair way to make out that all psychical activity has as its concomitant some mode of physical action. Mental life is thus a chain of events, parallel to another chain of physical events. More particularly mental life coincides with certain active central portion of the nervous series, namely, cerebral processes. Are these series independent of one another, or is there any causal connection and interaction between them? Is the psychical event the result of the first stage, sensory stimulation? On the other side, is the mental process a condition of the final stage, the muscular action? Or is this a case of mere parallelism without actual causal contact?

These questions have not yet been answered by accepted scientific methods. The physiologist setting out with physical phenomena as his realities and following the familiar methods of physical science, is disposed to regard the chain of nervous events as complete and self-explanatory, and to view the accompaniment of consciousness as an accidental appendage or "collateral re-

sult" of the physical events. On the other hand, the psycholgist setting out from the inspection of the internal series of psychical events maintains that these are at least as real as the physical processes, and cannot be brought under the general effects of physical action; also that they must be included as co-operant factors or agents in the whole complex series. It would thus appear that in the concomitance of the physical and the psychical we have a unique fact not to be explained by being brought under the interpretation of ordinary laws of physical causation.

The insolubility of this question by commonly accepted scientific methods, and the double way of approaching its solution, are clearly illustrated in the different philosophical theories propounded to meet the case. On the one hand, we have as the earliest attempt to solve the mystery, materialism, or the doctrine that the material body is the only existent substance and active principle, and that what we call the mind is an effluence from, or product of, the activity of this substratum.

Over against this tendency we have Spiritualism, or the doctrine that the material is relatively dead or inert and unreal, and that the principle of life and activity is a spiritual principle. The materialistic tendency allied itself to a mechanical view of nature, which seeks to reduce organic life to the effect of mechanical arrangements. The spiritualistic tendency, on the other hand, led rather to a theological view of nature, to the theory that so-called inanimate objects are vitalized by a principle which involves purpose or end. Besides these tendencies acting singly we have combinations of them which aim at giving equal substantive reality and power to the material and to the mental or spiritual. The first crude form of such a combination is Dualism, according to which two co-ordinate substances exist side by side, but exert no influence one on another; the appearance of interaction being due to a Divine arrangement. Finally the desire to meet the claims of each of the two connected terms, and at the same time to account for their connection or union has given rise to the doctrine of *Monism*, according to which the material and the mental are related as two attributes of the same substance, or as two aspects of one reality, like the convex and concave sides of a mirror.

This accepted monism asserts that the mind or *psyche* of man has developed together with, and as conjoined functions of, the

nerve masses. The human mind or the mental capacity of the human race has developed gradually, step by step, from the minds of the lower vertebrates, being the same in kind if not in degree. There is no such thing as "free will" in the usual sense. On the contrary, in the light of this monistic conception of nature, even those phenomena which we have been accustomed to regard as most free and independent, viz: the exercise of the human will, appear as subject to fixed material laws as any other natural phenomenon. Indeed, each unprejudiced and searching test applied to the action of our "free will" shows that the latter is never really free, but is always determined by previous causal conditions, which are eventually referable either to heredity or adaptation, or repetition or automatism.

Hypothesis is, of course, not science, though it seems as if scientific men sometimes think that it is. It may be reasonable and likely, but if large portions of the laws of phenomena which it ought to include are inaccessible, by reason of time or space, or want of opportunity, it is beyond the domain of science. It cannot be employed in argument, and has no validity as against ascertained facts, which no such interpretation of phenomena can fully solve. The well known rule that if a hypothesis explains all the phenomena, then is it probably true, is not applicable where there is only partial solution by its assumption. These master thinkers founded their opinion on the asserted facts of biology, especially embryology. Comparative anatomy, vivisection, physiological development and pathology all do duty in this direction.

The growth of body and mind based upon environments, functional necessities, inherent aptitudes and selective powers arising from the necessities of existence, are presented as proofs. They study mind and body from three radical sources:

(*a*.) In what is observed by the observation of our physical system, in function, during health and disease; by the use of drugs in their well known selective effects on different parts of the nervous system, and by experiment on the living lower creation.

(*b*.) In the study of the actions, words, habits and apparent motives guiding the reason and will in other human beings constructed as we are, in physical mechanism, and obedient to the same general laws of existence.

(*c.*) The introspection of states of consciousness and the study of their conditions in relation to the *ab extra* world. These subjective and objective phenomena are noted and classified, and as a result it is held that not only does all evidence go to show the intimate relationship which exists between mind and body, in health and disease, but also that there is no reason to believe that mind is a distinct essence, but rather a resultant of nerve energy made manifest as psychic force. In other words, it is only a function or secretion. There is nothing except body and its qualities. In the somatic theory of Cabanis this doctrine is put in one sentence: "All intelligence consists in sensation, and all sensation resides in nerves; as the liver secretes the bile, so does the brain secrete thought."

There is no mind at birth, says Blandford in his lectures on insanity, and all knowledge can be reduced to sensation. Locke held that mind existed at birth, but that it was as a sheet of white paper, with no mental impressions on it, or as he states, "no innate ideas." Strange to say, this doctrine of negation of ideas, coupled with the assertion of the opinion that there was an existence which had ideal potentiality in the initial stage of extra uterine life, yet possessing no definite mentality, held sway over the minds of metaphysicians of Britain and America for many years, until Sir William Hamilton took up the cudgels against this view. A great deal of misunderstanding has arisen in connection with this and kindred subjects because of want of exactitude in the use of terms. Logomachy is constantly going on over differences in the meaning of the words used in the discussion of abstruse and scientific subjects rather than over essential facts of controversy. The word mind is one of these terms. In its widest sense, as understood among the ancients, its synonym, *psyche*, was meant to include in the term all things living, from the most simple plant to the greatest philosopher. The thistle has soul as well as the body of a living Socrates. This definition was much more expansive than is that of the theologian who knows of no spirit except in man, and who divides up man only into soul, spirit and body. Of course, this tripartite division was necessary in order to bring his terms into line with his exegesis, which gives man and beast two distinct entities in common, but adds soul or spirit in its summary of the intellectual and moral endowment of man. To doubt this

statement would expose us to the condemnation of that class of interpreters who sees in such hermeneutics what is called "the higher criticism," and looks upon the division into duality as rank heresy. To such the generic term mind has no significance in the strict physiological sense of that term. The dualist scouts the idea of such a triumvirate of forces in man, and reduced the number to two, namely, that of mind and body. One class of thinkers believes the mind to be a non-material something, and has no doubts about the existence of the gross matter of the body being the medium in which it manifests itself. The other class teaches that mind is a subtle form of matter, in short, a higher form of that ascending series of material forces which begins with chemical action, then cell life, then vegetable life, then organic life, then psychic life. They deny that these correlate, but only acknowledge that the higher manifestations depend on the lower in a subsidiary way, and not as a necessary condition of existence. The monist puts this theorist in the witness box, and asks for solutions of facts in experimental physiology, in pathology and in natural history. Such take the form of presentation, which is seen in the correlation of force in chemical affinity, motion, light and electricity. They do not claim, nor can it be proved that the correlation is entirely interchangeable or precisely convertible as in chemical action, but insist that the same general law is in force along this line of operation as between mind manifestations and organic activity and *vice versa*.

With Maudsley we are to put memory in every molecule, and consciousness as being only the recognition by a molecule of the influence of sensory impressions; like Carpenter we put volition in nerve tissue wherever found, or to use his own terms, call it "a function of the supreme centers," or designate will to be merely "a result of organic changes in the supreme centers." Like Tyndall, we will call the ego "a poetic rendering of a phenomenon which refuses the yoke of ordinary physical laws." The same opinion is given by Voght.

Moleschott says: "Thought is a motion of matter." Buchner says that "the soul is a product of a peculiar combination of matter—thought is emitted by the brain as sounds are by the mouth, or as music is by the organ."

Luys, in "The Brain and its Functions," puts the matter

thus: "All spontaneity, all proper activity, all free-will, is thus set aside, the voluntary act being nothing more than the reaction of sensibility. It is sensibility which, being everywhere present and everywhere vibrating, inspires our words, our writings, our acts, following the instinctive appetites which determine its attractions and repulsions. Personal interest is the sole motive of human conduct, the all-powerful magnate which guides it; self-devotion is but a disguised form of egoism. It is easy to imagine what the personality becomes in such a system. The unity of the ego is nothing more than the accord into which all outward stimuli are automatically attuned, when, after traversing the series of connected cells forming the *cortex*, they reach the common *locus* which acts as a great receiver-general. This receiving area, localized in the region of the *corpora striata* and *optic thalami*, may be called the *sensorium commune*. Past and present stimuli are blended in this living receptacle; it is like an animated piano which harmonizes all its tones into one accord."

Maudsley arrives at the very same conclusions. To him mind is only a generalization, a metaphysical abstraction of the nervous and cerebral phenomena. Mental activity depends absolutely on the structure and nutrition of the brain. The history of intelligence is identical with that of the nervous system; it is in exact relation with the cerebral convolutions. The differences between man and the animal are in exact correspondence with the development of the physical organ of thought. The unity of the consciousness is explained by the union of the two cerebral hemispheres. The *ego* is nothing more than the unity of the organism. Further, consciousness is not the essential factor of mind, it is only a secondary attribute. The nervous centres are the seat at once of the ideas, the motions, and the will, without there being any necessity to attempt a definite specialization of the various modes of cerebral activity in the cortical layers. The activity which begins in the posterior convolutions, communicates itself to the anterior, where it is transformed into acts and words. Maudsley concludes by congratulating himself on having succeeded in altogether eliminating internal experience, so as to arrive at the true facts of consciousness. Dr. Bastian, in his last chapter of his book on the brain and mind, affirms that intelligence ought to pro-

ceed from the organic life; otherwise we are compelled to leave the simple natural way, and to admit a supernatural element, that is to say, to proceed on another principle than simple natural development, which is always purely physical and mechanical. It is true that the author recognizes that the experimental proof of this *processus* is still wanting, and he formulates his conclusion as a sort of postulate.

We can easily imagine how, following in the steps of the eminent physiologists, and taking advantage of their great labors, without investigating them, the daring popularizers of materialistic doctrines vaunt in tones of triumph their assertions of the identity of the brain and thought. "The organism is the man himself," says M. Andre Lefevre. "Intelligence is the result of organic phenomena. Consciousness begins only in an annular protuberance, in which the *fasciculi* of the *medulla* meet." "The grey matter of the cortex," says M. Letourneau, "is the conscious and thinking part; thought is only a function of the nervous centres." Edmund de Pressencè protests against these actions and says: "We have a brief refutation to offer to these sweeping assertions of materialism as to the close connection between mind and the brain. First of all, we dispute the conclusions drawn from purely physiological experiments, even when perfected by the fullest aid of vivisection. 'Physiological experiment,' as is well said by M. de Broglie, in his book on Positivism, 'is always brought to bear on the instrument of the mind, and on that instrument alone. Neither the mind—in the most materialistic conception of it—nor its operation is ever revealed by the scalpel; it is perceived solely by internal observation, which differs *in toto* from external experiment. The latter, moreover, can only be applied to the brains of animals, and to these only in a dead or inactive state. To say that the brain thinks because a certain correlation is observable between thought and the physical condition of the brain, is to demand from external experiment that which it is not competent to give; for thought, by its method and essential nature, eludes it.' Internal phenomena, from their very nature, cannot be either seen or touched; the scalpel and the microscope alike fail to reveal them; they can only be perceived by one faculty—consciousness."

As Du Bois-Reymond says, on the other hand, "the anatomical

knowledge of the brain, the highest knowledge we can attain, reveals to us nothing but matter in motion. But if we suppose that from this knowledge certain intellectual processes or dispositions, as memory, the association of ideas, and so on, might become intelligible, that too is delusion; we only learn certain conditions of intellectual life but do not learn how the intellectual itself is developed from these conditions. What conceivable connection exists between certain movements of certain atoms in my brain on the one hand, and on the other the, to me, original and not further definable but undeniable facts, 'I feel pain, feel pleasure, I taste something sweet, smell roses, hear organ tunes, see something red,' and the just as immediately resulting certainty, 'therefore I am?' Is it possible to see how, from the co peration of the atoms, consciousness can result? Even if I were to attribute consciousness to the atoms, that would neither explain consciousness in general, nor would that in any way help us to understand the unitary consciousness of the individual." In the conclusion of his chapter on "Force and Matter," after reviewing the atomic theory, Langè says: "In the present state of the natural sciences matter is everywhere and unknown, force the known element. If instead of force we rather talk of a 'property of matter,' we must beware of a 'logical circle.' A 'thing' is known to us by its properties; a subject is determined by its predicates. But the 'thing' is, in fact, only the resting place demanded by our thought. We know nothing but properties and their concurrence in an unknown something, the assumption of which is a figment of our mind, though, as it seems, an assumption made necessary and imperative by our organization."

The fact is, it is unthinkable to suppose organization without taking it for granted that an organizing force antedated it. This is not only true in our conception of organizable and organized matter from the protoplasm and protozoa upwards to man, but it is also true in chemical union, which is one of the simplest forms of manifested force. I take a tumbler of distilled water and dissolve in it several salts, say, alum, Epsom salts and saltpetre, which form large crystals. The moment they are dissolved they disappear beyond the reach of vision by microscope or spectrum analysis, while dissolved in the fluid. We know we can bring back to vision every molecule and every monad by evap-

oration. If a piece of glass is dipped in this saline solution and what adheres to it is allowed to dry, crystals are being formed on its surface, as evaporation goes on.

While this process of formation is going on let us use the oxy-calcium or electric light and with a magnifying glass throw the shadows of the gathering crystals on a screen. We will then see the particles of matter begin to take definite shapes, each according to its kind without confusion. As if an army had been scattered and orders had been given for each company, each battalion, each regiment and each corps to gather together at its respective headquarters. When the rendezvous of each has been reached every particle takes its appropriate position in the ranks and the result is, that without an error each salt will form the crystal which is inherent to it. The facets, the angles, the general shapes of each are so well known by the study of the laws of crystallization that the kinds of minerals are recognized at once. This reign of law as manifested in non-living matter is wonderful; we may call this force, *cohesion*, *polarization*, or what we may. It is universal in nature and without it there would be chaos.

> The very law which moulds a tear,
> And bids it trickle from its source,
> That law commands the world a sphere
> And guides the planets in their course.

I never looked upon this silent force in operation but with awe and wonderment. Endeavor by any process of reasoning to think of mere force in the abstract, and we fail. Not only so, but force must be associated in our minds as being chronologically antecedent to the definite formation of matter. We cannot have formation of matter without antedating the agent. The worker must exist before the work. We carry our minds backward in imagination to the ultimate elements of matter, yet, this idea will cling to us with axiomatic force.

Lucretius got over this difficulty by holding the doctrine that matter was eternal; force was also everlasting; mind was a subtle combination of force and matter, and of necessity had no beginning and could have no end. Seeing that unending duration was an essential condition of all existence, hence, the logical conclusion that mind was according to this law of nature immortal. In this view force and matter could not antedate one

another. They were of necessity cotemporaneous. Take another illustration. I put different kinds of seed into a box of earth, of uniform fertility. The same heat is applied, the same water, and the same sunlight. The materials from which each seed draws its food are the same. The seeds sprout; they throw out their rootlets; they select from this storehouse of nature what is specially needed, according to the nature of each. The result is, that the fibers of the stems, the shape of the leaves, the petals, the coloring, and the properties of each are as varied as the seeds, each according to its kind. The vital principle in each is different, according to species and genera. This selective and building up force which is so familiar and yet so wonderful has the chemical union as a basis, but it has taken a much higher step in variety and complexity. These more skilled workers, although for the time latent in the seed, have all the potentialities of the flower or the mighty tree in them although undeveloped. The vitalizing power was *in esse* before the structure had taken form.

Take another illustration. I have taken my dinner, composed of a variety of dead matter. It has gone through a chemical process of digestion. The glandular laboratories have changed the chemical into vital bodies in the blood corpuscles. Did the process of organization stop here, we would die of inanition. The thousand and one workshops in each body have master builders in them who are crying out for material. No two manufacturers carry on the same kind of work. The arterial stream carries in it the needed raw substances and each organ takes out of it only what is wanted for its distinctive structure. Each organ has its own peculiar cell which will seek for nothing but what it wants. From the lung cell to the liver cell; from the cartilage cell to the bone cell; from the muscle cell to the fat cell, and from the lens cell to the brain cell are created structures, different in histological construction, in functional activity and in growth renewal. This is a great step in advance of chemical union and of merely vegetable life. The differences between the varied organs of our bodies are far greater than is evident in the world of nature below them. There is, however, one common bond of union in the nerves and the ganglia which brings about harmony of action in this community of interests. It will be accepted without controversy that a subtle force was not only contemporaneous with, but was the creator of these organisms

and stamped upon each its function in the animal economy. Muscular activity, secretion, excretion, structural power and necessary decay go on night and day under the dominion of this residuary force, which called specialized functions and organs into being.

So far there are manifest three active agencies in this ascending series of existences, interdependent upon one another. All agree so far as organs and functions are concerned, as we have had gross matter merely to deal with in ever changing forms, but obedient to law. These substances have primary and secondary qualities. They have density, gravitation, extension, divisibility, figure, occupy space, and such like properties which belong to matter in its crude form. We take a step higher in the scale of being, but in this we have no new material organisms. We come in contact with forces, powers, faculties and states of being, which seem to have nothing in common except existence with this gross molecular world, which thus far has been presented to our senses. We give these new forces the names of instinct, feeling, volition, reasoning, imagination, memory, emotion, attention, reflection, consciousness and such like. To a greater or less extent we find these wonderful powers, conditions and faculties resident in all nerve substance. They seem to have no qualities in common with gross matter, and yet they are cognitive entities. None of them can be weighed, nor divided, nor measured, nor made tangible, nor tested by chemists, yet we know they are in existence as surely as we know we live. What are these startling phenomena which are, at this stage of development, interjected into nerve substance?

Now comes the battle of opinions, *pro* and *con*. And from the days of Lucretius, down to the latest idealist, the diverse opinions have raged, now on one side, now on the other. In the later days biology has entered into the controversy, and with it agnostic physiology, which knows nothing and acknowledges nothing beyond what is seen or inferred in the natural phenomena of gross matter. It cannot put into the usual formulæ the attributes of these mental existences, so it classifies them as functions of nerve substance. It is chemical force plus vegetative force, plus vital force, plus mind as a resultant finale of all combined.

Simply this and nothing more. This contest is largely

focalized on what is meant by consciousness. If it can be shown that consciousness merely consists of sensational impressions and as fleeting as they, then must its evidence be unsatisfactory. If it is simply a series of perceptions, memorized then is it self outside of self looking at self, which is contradictory. If it is simply mental acts, then has it no abiding and continuous existence. If it is a faculty, then it is only a function of brain and dependent upon this organ for its very existence.

Auguste Comte says: "It is out of the question to make an intellectual observation of intellectual processes; for the discerned and discerning organs being here the same, its action cannot be pure and natural. In order to observe, your intellect must pause from activity; yet it is this activity that you want to observe. If you cannot effect the pause, you cannot observe; if you do not effect it, there is nothing to observe. Comte's Positive Philosphy led him to believe that consciousness is a faculty or a succession of perceptions, when in truth it is merely a *state* of mental existence. The positive school of Comte scouts introspection and dogmatically adheres to purely objective methods of research. Even Herbert Spencer is forced to give up sensation as the only source of knowledge when discussing consciousness, although he evidently does so with reluctance, as did his co-laborer, John Stuart Mill, in his theory of "The Association of Ideas."

Spencer says: "There must be a residuary consciousness of something, and this indefinite something constitutes our consciousness of the non-relative or absolute. Impossible though it is to give to this consciousness any qualitative or quantitative expression whatever, it is none the less certain that it remains with us as a positive and indestructible element of thought. The momentum of thought inevitably carries us beyond conditional existence to unconditional existence; and this ever persists in us as a body of a thought to which we can give no shape, and transcends not only human knowledge but human conception." Here he gives up the physiological idea of the monistic school, that sensation is the sub-stratum upon which all human knowledge is based, and with it the theory of mechanical evolution is abandoned. In other words he cannot ignore what Sir William Hamilton calls the idea of "The Unconditioned," namely, the conception of space, duration, and continuity in which is no sensation as a primary condition.

As David Hume would say, consciousness is "the original furniture of the mind," and not a secondary product based on sensation. These concessions are important when they are made by those who see nothing but a physical basis for mind, and who hold body and mind to be merely cause and resultant. They cannot shake themselves loose from these problems of mental introspection and continuity. They felt that sensation alone, however multifarious in its receptivity, failed to explain all the enigmas of psychic life. Elements of combination, of unending synthesis in which, as such were no previous sensational experiences, must have an abiding nature as evident to our experiences in subjective life, as are the phenomena in the *ab extra* world which are presented to our senses and recognized by us only inferentially. As Goethe puts it:

> "Who of the living seeks to know and tell,
> Strives just the living spirits to expel.
> He has in hand the separate parts alone,
> But lacks the spirit bond that makes them one."

Consciousness remains with us during all the mutations of our physical system. In that time millions of brain molecules have grown to maturity—produced their like—and having become an excretion, are cast out as useless dead drones from the busy hive in the ambulances of nature. Each parent monad has left to its child a legacy and a biography of the past. Each succeeding generation has garnered permanent and fleeting impressions to be harvested and appropriated by the living tenant as emergencies arise. The older the facts of memory in childhood the more vividly are they portrayed in the vast picture gallery of the brain. The molecules change in substance and possibly in contour, as do the other parts of our physical system. Every impression, mental or physical, makes a fixed change in the ultimate elements. From this storehouse, at will or by association, the past is brought up to mental view with all its varied experiences. The instrument is ever changing in essence and capability during revolving years, but consciousness remains true to its impressions in spite of these disturbing transitions, and even of much organic lesion. What hypothesis can consistently explain this, if our consciousness were only a function or a secretion? No wonder that Maudsley takes every opportunity to have a tilt at it, and calls it only an "indicator"

to tell what the molecular agent is doing, for if it be a state taking cognizance of the conditions and acts of the ego, or rather the ego itself acting in a cognitive state, such a living fact would strike a fatal blow at the substratum on which is built the doctrines of the school of Comte.

Professor Huxley says justly: "Nobody, I imagine, will credit me with the desire to limit the empire of physical science; but I really feel bound to confess that a great many very familiar and, at the same time, extremely important phenomena, lie quite behind its legitimate limits. I cannot conceive, for example, how the phenomena of consciousness, as such, and apart from the physical process by which they are called into existence, are to be brought within the bounds of physical science. Take the simplest possible example, the feeling of redness. Physical science tells us that it commonly arises as a consequence of molecular changes propagated from the eye to a certain part of the substance of the brain when vibrations of the luminiferous ether of a certain character fell upon the retina.

Let us suppose the process of physical analysis pushed so far that one could view the last link of this chain of molecules, watch their movements as though they were billiard balls, weigh them, measure them, and know all that is physically knowable about them.

Well, even in that case we should be just as far from being able to include the resulting phenomena of consciousness, the feeling of redness, within the bounds of physical science, as we are at present. It would remain as unlike the phenomena we know under the names of matter and motion as it is now."

Huxley sees no way to span the unknown chasm between physical activity and mentality, yet many of his followers lightly trip over it and describe the way with exactitude and dogmatic assurance.

The same differences of opinion exist in respect to the formulation of our moral judgments. The generic name of conscience is given to this faculty of the mind. By one class of thinkers this ethical power is said to be instinctive, and is capable of judging intuitively of the value of human motives and conduct by the *rightness* and *wrongness* of acts. This power is said to be inherent in the human mind, and is unerring

in its verdicts in respect to the moral qualities of human actions. In fact, it is said to be "God's vicegerent upon earth."

Wayland, Paley, Alexander and other authorities of the theological school, cling firmly to this view, and imagine that were this foundation stone removed, sin, choice of action, and responsibility, would be myths, and moral chaos must of necessity follow.

The alarm is not unreasonable were these deductions of the theological school self-evident and conclusive. On the other hand, Darwin sees no congenital faculty in conscience. In his "Descent of Man," (Vol. I, page 68,) he says "that any animal whatever, endowed with well marked social instincts, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well developed, or nearly as well developed as man."

Haeckel in his "Evolution of Man," sees no moral in this little world of ours. He says with emphasis that "the moral ordering of the world is evidently a beautiful poem which is found to be false by actual facts. It exists neither in nature nor in human life, neither in natural history nor in the history of civilization. There is no such thing as 'free will' in the usual sense. On the contrary, in the light of this monistic conception of nature even those phenomena which we have been accustomed to regard as most free and independent, such as the expressions of the human will, appear as subject to fixed laws as any other natural phenomena. In short, each unprejudiced and searching test applied to the action of our 'free will' shows that the latter is never really free, but is always determined by previous causal conditions which are evidently referable either to heredity or adaptation." By one fell swoop, free will and moral distinctions are swept away and mechanical law is put in their place. Mental spontaneity, ethical judgments, and the data of consciousness are sequents of blind force, from whose thraldom there can be no appeal, as conscience, moral obligation and volition, abstract ideas of infinitude in time and space, of number and form, of artistic conceptions and of our own identity and continuity are simply secretions, whose creator is living nerve tissue in formative operation.

Now, great as seem these differences, there is much common ground in all these definitions and doctrines which all could agree upon:

1st. Evolution is accepted if it includes involution, that is, the protoplasm includes all the potentialities of subsequent change and diversity.

2d. There is a definite relation between brain cells and mentality; given the one, the other is present in corresponding strength and activity; just as the magnetic iron has magnetism in it in proportion to its weight, yet one is not of necessity a resultant secretion of the other.

3d. It may be possible that ethical powers depend in a large degree on environment, education and experience, as Herbert Spencer says in his "Data of Ethics," or it may be they are instinctive in a rudimentary way, and like intellect, are only in need of stimuli to bring them into moral activity. The writer of this monograph is convinced that moral judgments depend on the intelligence for evidence, in every step of their formation. The conscience is only a judge to pronounce verdicts according to the intellectual evidence presented, and is as likely to give wrong judgments as right if the intellectual presentment is false; hence it is a fallacious court of appeal unless true evidence is given. So it is that the man with an enlightened conscience is the highest type of humanity.

At the same time we find among our criminal classes many who have never had their minds drawn out to the highest appreciation of the grandeur and beauty of moral obligation. They may be educated, shrewd, cunning and in the ordinary acceptation of the term clever, yet no crime however heinous would cause them the loss of a night's sleep, or deprive them of appetite, They do not know what is meant by remorse. They have been well styled "moral idiots." On the other hand we have the Hindoo mother, crushing out the natural instincts and killing her offspring to appease the anger of some imaginary God. Her religious education has neutralized the natural affection of the mother, which in animal and man is the strongest of all passions. In the former, conscience was never developed, and in the latter custom has obliterated it or at least neutralized its potency, as nature had planted it in the mind of all well organized human beings. Examples of all kinds might be given to show how variable and unstable is the moral faculty of man in active operation. The mental structure is built up from sensation to ideation; from ideation to intelligence; from intelligence to reasoning; from

reasoning to the formation of moral judgments. We see in insanity how often the tearing down is in inverse order to the building up.

4th. Absolute free will is not to be found. We are "cribbed and cabined" in an organization which hampers our mental organization to a greater or less extent. Traits of character, such as temperament, habit, education and state of health give bias to our thoughts and impulses. This is conceded by both schools of thought. At the same time we are conscious of a certain amount of mental freedom which no reasoning, sophistical or otherwise, can deprive us of. A moment's reflection will convince us of posessing this power of spontaneity within certain lines of volition.

Pressencè, in his "Study of Origins," puts the other side of the question as follows: "That which is fatal, as it seems to us, to Herbert Spencer's whole theory as to conduct and the constant adaptation of existences to their environments, as applied to humanity, is the fact that humanity never maintains a fixed correspondence between its stage of evolution and its intellectual development. If evolutionism were true, if man developed psychologically in his moral and physical nature in accordance with the principle of the conservation and transformation of energy, every stage of evolution reached should be permanent, there should be no possibility of retrogression; for progress having been produced necessarily by the operation of the laws which govern the universal mechanism, and by virtue of which man's brain is modified coincidently with his mind, (mind being after all only a function of the cerebral organ,) we fail to conceive why a generation, or a whole people, having attained a fresh stage of evolution, should not invariably remain there till it was prepared for a yet higher stage. The adaptation has been spontaneous, the human agents have been only its passive instruments. How comes it then that they are constantly retrograding, and that their conduct is so habitually at variance with their social environment? In our day, this social environment in accordance with the law which resolves the homogeneous into the heterogeneous, and the heterogeneous into the complex and definite, is something immeasurably above self-asserting individualism. We are assured that we have arrived at the period of *altruism*, which subordinates the interests of each to

the interests of all, and yet every day we see individual interest insolently asserting itself and imperilling the social community. Whence the falls, these retrogressions? How can we explain the sorrowful saying, so often verified by experience, "*Video meliora, deteriora sequor?*' Let it be observed that these falls are now the fault of a few individuals, that there are whole generations and nations which fall back upon the dominion of sheer selfishness and violence. We recall the witty saying applied in the last century to the collective error of a great department of State: 'One horse may stumble, we allow, but a whole stableful at once—.' Such repeatedly recurring alterations of advance and retrogression in the moral history of mankind are surely a proof that conduct is not with man, as with the mineral, vegetable, or animal, a mere necessary and inevitable adaptation, but some thing in which his will comes into play. Determinism renders these fluctuations altogether inexplicable. It is equally opposed to that education of the conduct which the English physiologists admit. They seem to hold it possible to influence the destiny of man and of a nation by strengthening the action of certain motive forces, that is by the intelligent organization of the social environment. We confess that we do not understand how human intelligence can act upon this vast mechanism, of which it is merely one of the wheels. It may gradually come to work more smoothly by friction, after the manner of machinery, but it can have no power to change its nature in a world wholly subject to the inflexible laws of motion."

This whole subject is a matter of paramount importance to every student of man, either in health or disease. Strange to say, that intimately connected as man necessarily is with himself in his objective and subjective states of being, yet no subject of study has given rise to more diversity of opinion in all the range of human knowledge. This study must be of intense interest to us, who have to do with the mind in an abnormal condition, and we cannot ignore its claim upon our attention if we seek to be thoroughly equipped for our work. Pathology is important, but it is merely a study of ruins. Physiology is a great study, but it means observation of a machine in active operation. Mental alienation is an object of surpassing interest, and shows that this machine is out of repair and needs reconstruction.

But man in health is surely not less an important object of contemplation, and in a sound condition he is the standard by which we measure all deviation from normal condition in each person.

Such being the case, the writer has taken this opportunity to add his humble contribution to this vast subject. There are many in this Association who doubtless differ from him, being ardent followers of the so-called New Psychology, but he is sure that they will appreciate honest convictions, come from whom they may, even if uttered by those who may be considered too conservative in their opinions, in this age of advanced thought.

POST-FEBRILE INSANITY.*

BY HENRY M. HURD, M. D.,
Superintendent of the Johns Hopkins Hospital, Baltimore.

In view of the fact that within the past five years the subject of post-febrile insanity has excited renewed attention and elicited discussion, I have deemed it proper to present the salient aspects of this form of disease in lieu of a report covering a wider range of psychological medicine.*

The topic is not a new one. Chomel,† 1834, spoke of it as a derangement of the mental faculties which might take the form of mania and disappear with convalescence, or might assume a severe type with an uncertain result. Esquirol,‡ 1839, thought that fevers of a low character left after them a chronic delirium which ought not to be confounded with mental alienation, but which, from his description, could really have been nothing else. Simon,§ 1844, reported several cases of insanity following typhoid fever, and considered that insanity was developed during the first days of convalescence, and was probably a continuation of the delirium. Sauvet,‖ 1845, gave many illustrative cases which he analyzed carefully and described very clearly. Thore,¶ 1846, also observed and reported at length a number of cases. Baillarger, in 1865, thought that fevers produced insanity in two ways: by their effect upon the nervous system, and by the anæmia which they caused. Clouston,** 1883, regarded post-febrile insanity as due to an exhaustion of vital powers caused by zymotic diseases analogous to the nervous affections of childhood. Wood,†† 1889 "believed that although insanity following acute disease varies, greatly in its symptomatology, in almost all cases there is one common fundamental brain condition, and this fundamental brain condition bears no specific relation to the disease which has pro-

* Read before the Medical and Chirurgical Faculty of Maryland, April 28, 1892.

† Cliniques Médicales, T. I., 1834, (Obs., 53).

‡ Maladies Mentales, T. I., p. 73, 1839.

§ Simon—Journal des Connaisances, etc.,—quoted in Annales Médico-Psychologique, T. IV., 1844.

‖ Remarques sur le Délire consécutive aux Fièvres Typhoides—Annales Médico-Psychologiques, 1845.

¶ Thore—Annales Médico-Psychologiques, T. VI., 1846.

** Clouston—Clinical Lectures on Mental Disease, p. 599, 1883.

†† Wood—University Medical Magazine, December, 1889.

duced it, but may be the outcome of an altered nutrition which is produced by an exanthematous disease like typhoid fever, or by a diathetic disorder like rheumatism, by an accidental traumatism or by a surgical operation," and he thought "there are etiological and symptomatological reasons for believing that insanities after acute disease are identical in their nature." He argued further that if the insanity has a specific relation to the poison of the disease there must be half a dozen specific insanities connected with acute diseases—a supposition which he regards untenable. Hence, he proposed the term "confusional insanity" to cover the whole group of mental diseases which he regarded as due wholly to the exhaustion of the nervous system from shock or wasting disease. Korsakoff,* on the other hand, regarded a similar condition as due to a poison, acting in some cases upon the peripheral nervous system, and in others upon both peripheral and central nervous systems.

However desirable it may seem to simplify the etiology and symptomatology of this group of diseases by thus ascribing them to a single cause and to class the manifestations together as "confusional insanity," it seems illogical to do so for sake of convenience merely, if thereby conditions are blended which are not identical and causes are mingled which are distinct. Hence, I shall not hesitate to consider these cases as of a three-fold character, viz.: 1. Those developing from shock. 2. Those developing from specific poisons. 3. Those developing in consequence of anæmia and nervous exhaustion.

1. *Insanity Developing from Shock.*—Under this head we have cases of confusional insanity which are due to surgical operations, childbirth, the puerperal condition, etc. Here we have a history of great mental strain or anxiety, sleeplessness, delirium, hallucinations of hearing or sight, delusions of apprehension, and often great mental disturbance. The insanity develops suddenly as a rule and runs a rapid course, generally terminating in recovery, but sometimes in death or chronic insanity. In my experience, the symptoms are usually more active in these cases and there is an absence of fixed delusions.

2. *Insanity Developing from Specific Poisons.*—Under this head are comprised the delirium of fevers, both intermittent and exanthematous, of pneumonia, of uræmic poisoning, the transient

*Korsakoff—Allgemeine Zeitschr. f. Psychiatrie, 1889, XLVI, Bd. H. 4, p. 475, (Psychosis, Polyneuritica sen cerebropathica psychica toxæmica.)

insanity of influenza, the mental confusion of multiple neuritis, the delirium of iodoform, salicylic acid and chronic alcoholic poisoning and the delirium of puerperal fever. In this group of cases we have a poison acting directly upon the central or peripheral nervous system, producing an intoxication, as shown by confusion of ideas, incoherence and a more or less rapid flow of thought. This poision may be of the nature of uræmia or some of the toxic albumens—which Welch has shown to be produced in pneumonia and diphtheria, which possess a special toxicity to the nervous system—or an intoxicating drug which has a prolonged action. These poisons produce an active delirium which is generally self-limited and disappears when the exciting cause is removed and the period of convalescence is established. This condition should not be confounded with the next condition.

3. *Insanity Developing from Anæmia and Nervous Exhaustion.*—Under this head we have an insanity which arises secondary to the fever and is to be regarded as the expression of an exhausted physical state. Here we have delusions of fear and apprehension, hallucinations of sight and hearing, perversions of taste, of cutaneous sensibility, and frequently progressive stupidity and mental impairment. I would not be understood to assert that the delirium which is developed during the active stage of typhoid fever may not give rise to impressions which are retained in the subsequent stage of the disease when post-febrile insanity develops. I believe such to be the case many times, especially in those patients where a hereditary tendency exists to mental disease, or where there have been relapses or a tedious convalescence. The exact predisposing causes of the original delirium are not clearly known. In some excitable organizations, the quickening of the brain circulation, which results from any fever, produces an immediate delirium. This is true of children and those who retain a brain excitability analogous to that of childhood. It is peculiarly evident in some persons suffering from intermittent fever, who invariably have a delirium during the hot stage. In these impressible organizations, it is not strange that delirious conceptions, formed during the fever, should impress themselves vividly upon the brain and give rise to fixed delusions in the latter stages of the disease. It is not difficult, however, to perceive that in post-febrile insanity a new condition is present which has been grafted upon the original delirium, and which, while it may be moulded into the form which the delirium has made ready for it, is essentially a new con-

dition. I think I can render my meaning clearer by briefly citing cases illustrative of the three conditions above referred to.

CASE I.—*Maniacal Excitement following Removal of Diseased Ovaries—Incoherence lasting several months—Ultimate Recovery.*

E. A., female, farmer's daughter, age 28, was operated upon at the Johns Hopkins Hospital for the removal of two diseased ovaries. The operation was rapid and uncomplicated, and she made an excellent recovery. The sutures were removed upon the eighth day and the wound was found to have healed perfectly throughout. She displayed at this time irritability, but no other symptom of mental disease. On the tenth day she became loquacious and spoke of her remarkable recovery and of her freedom from pain, and was manifestly elated. Upon the sixteenth day, actual maniacal excitement developed. She laughed at trifles, talked foolishly, and was incoherent. Her excitement continued to increase until she became noisy at night, violent and destructive. She got no rest except under the influence of hypnotics. At the end of six weeks she was removed to an asylum for the insane, where her excitement continued for a number of months, but gradually subsided, and a complete recovery took place. The patient had always been nervous and excitable, but had never before shown any mental derangement.

CASE II.—*Insanity Developing from Pneumonia with Systematized Delusions Originating in the Delirium of Fever—Recovery.*

E. S. S., female, age 35, merchant's wife, had an attack of pneumonia in 1869, accompanied by a high grade of delirium. During her delirium she had hallucinations of both hearing and sight, and was much excited by the presence of her husband, and also of her nurse. When the pneumonia subsided, she was confused, suspicious, lacking in ability to fix her attention and with definite delusions about her husband. For a long time she was unable or unwilling to give utterance to them, but, finally, she detailed them at great length and with considerable fullness of detail. She believed that her husband, during her illness, had improper relations with the nurse in her presence. These ideas were retained for many months, and her feelings towards her

husband became so bitter it was necessary to place her in an asylum for the insane. For a long time she continued confused, suspicious, and influenced by delusions, but at the end of a year her morbid sentiments disappeared and she became affectionate towards her husband, but easily confused and fatigued. She often referred to her delusions as a horrid dream and fully realized their morbid character. Her convalescence was fully established in 1876, and since that time—a period of twenty-two years—she has been perfectly well.

CASE III.—*Melancholia Developing during Convalescence from Typhoid Fever.*

The following case, reported by Dr. Thayer, of the Johns Hopkins Hospital, furnishes an excellent example of true post-febrile insanity: The patient, a male, age 29, with no history of hereditary tendency to insanity, but with a history of alcoholic excess, was admitted to the Johns Hopkins Hospital September 24th, 1891, with the statement that he had given up work three weeks before on account of headache, general pains and moderate diarrhœa. His appearance and history indicated that he was in the third week of typhoid fever. He was put upon liquid diet and given baths at a temperature of 70° F., every three hours, whenever his body temperature went above 102.5°. The temperature pursued a steadily downward course, only four baths being called for, and after September 28th became practically normal. On October 8th, the patient having had eggs before, had milk toast and soft solids added to his dietary and was allowed to sit up in bed. On the evening of October 10th, he appeared for the first time nervous and anxious about his condition. He asked if he were very ill and whether there was any chance of his recovery. His anxiety was made light of, and when asked the origin of the ideas he said that one of the patients told him he was very ill. On the 11th, he was given, for the first time, meats, and was allowed dry toast with baked potatoes, but on this date he was more anxious about himself and seemed convinced that he was in a critical condition. On the 13th, his physical condition having steadily improved, the temperature having been normal for 15 days, and the diet having been increased to nearly normal proportions, he was allowed to sit up for a short time out of bed. On the same evening he was found to be in a very nervous condition. He was despondent, weeping, and, when the physician came

by, seized his hand and begged him to save him. He declared that he had seen the head nurse read the order that he was to be cremated that evening, and had also seen her receive the announcement that the box in which the operation was to be performed had arrived and was stored in the room below. He could not be convinced of the absurdity of his ideas. On the following day I saw the patient and suggested that he should be kept in bed. The condition was not materially changed; he was tearful and very much alarmed about himself. He insisted that the head nurse had told him that he was to be cremated because he had acquired syphilis, which he denied, and his only request was always that he might be saved. On the following day he seemed rather better, and appeared a little ashamed of the ideas which he had had on the day before, but he soon went back into his former condition. From this time on until the 26th of October, when he was discharged from the Hospital with the hope that a change of surroundings would relieve his mental distress, he grew steadily worse. He became constantly silent and depressed, and suffered much from delusions of fear and apprehension. Nothing has been heard from him since his discharge.

From these illustrative cases it is evident that we are not justified in attaching the title, "confusional insanity" to such cases as a whole. Cases of the first and second class, in which we have shock or a special poison acting upon the nervous centres, as might be expected, generally display mental confusion, incoherence, and even excitement. Patients of the third class, however, are much more apt to have systematized delusions of apprehension and melancholic symptoms. I have taken some pains to examine the histories of patients to ascertain the form of disease present in the reported cases of post-febrile insanity.

Out of 23 cases whose histories have been fully reported, 11 were of typhoid fever; in four of these insanity developed during the fever, generally in the form of delirium; and in seven, after the fever was over. In seven out of the eleven, there were delusions of distrust and apprehension. In one there were delusions of grandeur; and in the remainder, marked mental enfeeblement. Eight recovered; two died; and one did not recover. Two were cases of pneumonia; in one of whom the disease developed during the attack, and in the other, subsequently. One had violent delirium; the other, delusions of apprehension; both recovered after a tedious illness. Nine of the 23 cases were

surgical. In these, mental disturbances generally developed about the ninth day; although in one it was at the sixth, and in another at the twenty-first. In five cases there was depression, and in four excitement; four recovered; four died and one did not recover.

Symptomatology.—We now come to a point where, in my judgment, all the divergence of opinion which has arisen among writers upon "post-febrile insanity" begins.

There has been a confusion of the stages of delirium with the following insanity; and the confounding of two conditions, which may be related, but are not necessarily so, has caused some writers to consider these groups of cases as identical. Some writers, like H. C. Wood, believe the condition to be wholly due to anæmia and nervous exhaustion; while others, like Korsakoff, regard it an essentially toxæmic condition due to a special poison, such as is developed in beri-beri, multiple neuritis, la grippe, etc., which gives rise to mental confusion, delirium and delusions of apprehension. In all probability, neither view should obtain exclusively. The insanity in many cases is due to shock, anæmia and nervous exhaustion, and the manifestations are generally in delusions of a depressing character. These delusions, even in this class of cases, are not invariably so; because temperament, organization and nervous constitution generally have much to do with the form of mental manifestations, even when the underlying condition of the nervous system seems the same. In other words, of two persons of a seemingly identically exhausted state of the nervous system, one will display delusions of fear and apprehension, and the other will be wildly excited; one may have an inhibition, and the other an exaltation of mental function with extravagant delusions. The governing cause of these differences in symptoms must be the original brain constitution of the individual. There is, however, a distinction between delirium and insanity which ought not to be lost sight of. The essential feature of delirium is mental confusion. Mental concepts arise in the mind in a disordered, illogical manner, and ideas crowd upon each other for expression until all coherence is lost and the mind becomes a rapidly-moving panorama with shifting scenes. Delirium is especially the product of all toxæmic conditions; as is well illustrated by the delirium which follows iodoform, atropia or salicylic acid intoxications. Such delirium, fortunately, is generally of brief duration and disappears with convalescence; but this is not invariably the case, and the morbid

mental conceptions may subsequently give rise to systematized delusions. I recall very distinctly a case of chronic insanity, in which the dominant delusion had its origin in the delirium of typhoid fever. When the stage of delirium is not recovered from, and systematized insanity results, there is generally developed great mental confusion along with the insanity; but the association seems almost accidental and to be attributed to the delirium, and not an integral or necessary part of the mental disease. When insanity develops after a fever or other acute disease, mental confusion is not a prominent feature.

Heredity.—Heredity plays an important part. Persons who have an insane or neurotic heredity are more apt to develop delirium or insanity after any exciting cause. Their nervous systems are more impressible and their brain resistance to disturbing influence is diminished. I do not share the opinion of Glover* that heredity is an essential element in the production of post-febrile insanity; because many cases exist where no such heredity can be found.

Prognosis.—In the prognosis of this form of disease much difference of opinion prevails. Physicians who see these cases in general practice regard the prognosis as favorable. Alienists and asylum physicians who see only those which seem to require asylum care by reason of violence of symptoms or their long continuance regard the prognosis as unfavorable. It is possible that alienist physicians see only the more severe cases and hence do not take a sufficiently hopeful view. It is possible also that some of those who are regarded as recovered by physicians in general practice, do not, in fact, recover, but eventually develop fixed delusions and mental impairment. From the histories which I have gathered it is pretty evident that some so-called recovered patients were really much enteebled in mind. Dr. Brush, of the Sheppard Asylum, has mentioned to me the case of a patient who had active delirium during the stage of fever, from which after a tedious convalescence he apparently recovered, but developed, within six months, paretic symptoms. Many other similar cases undoubtedly exist.

Treatment.—From what has been said it is apparent that prolonged delirium adds to the gravity of the subsequent insanity. Hence it is desirable to guard against this as much as possible. For this reason I believe the "Brand treatment" of typhoid fever

*Glover—La folie et la fièvre typhoide, Paris Thesis, 1891,

with cold baths to be especially valuable. It is remarkable how few of the patients who have received such baths develop acute head symptoms and how well the nervous system seems to throw off the effect of the poison. If delirium can be prevented, a factor in the subsequent development of insanity may thus be removed. Something can also be done by rest, quiet and nutrition to prevent the disordered mental manifestations which follow the fever. It is desirable that these patients should not sit up prematurely, and that their feeble strength be not exhausted by company or mental strain. I am of the opinion that the determining element in the production of insanity in some cases is too prolonged abstinence from food. Each case should be carefully watched and food should be resumed as soon as the patient can endure it. Thus much for prophylaxis. For the treatment of the developed disease, rest, quiet, nutrition, remedies to procure sleep, massage, good nursing and careful personal attention, are required. As a rule I would not advise a resort to asylum treatment, because dangerous tendencies are not apt to develop and the step is not imperatively necessary. If, however, it is evident that the case is to run a tedious course, and especially if retention at home is likely to necessitate mechanical restraint, great personal hardships to friends, or confinement to narrow and uncomfortable city rooms, I would advise a transfer to an asylum.

In conclusion, I would say that in my judgment it is desirable that the term "post-febrile" should be restricted to those insanities which follow exhausting diseases, like typhoid and the exanthematous fevers, surgical operations, etc. It should not include the toxic conditions which give rise to prolonged delirium, nor should the name "confusional insanity" be substituted for it, as this element arises from the delirium and is much more applicable to the latter conditions. I would retain the term, post-febrile insanity, and add confusional insanity, to more accurately describe the insanities which arise during the delirium of active disease.

AFFECTIONS OF SPEECH IN THE INSANE.

BY T. H. KELLOGG, M. D.
Physician in Charge, Sanford Hall, Flushing, N. Y.

Speech, in the opinion of some, was the last and best gift of the great creator to man; while according to the view of others, it is a faculty that has been perfected through countless ages of evolution of the human intellect. In any case it is this *facultas signatura*—this wonderful ability to clothe thoughts in significant words—that preëminently distinguishes man from all other living creatures.

It is strange that the literature of the history and varieties of languages should be so immense, and that so little should ever have been written about the disorders of speech. It is true that the oldest medical authors did not fail to allude to such disorders, but they did not attempt to explain them, owing doubtless to the inherent difficulties of the subject. In fact, it is only modern medical science, and more especially new physiological and anatomical facts, which have enabled recent medical writers to throw a clear light on the more important disorders of speech.

So far as affections of speech in the insane are concerned, their study has only just begun; and one must enter upon their survey almost as upon *terra incognita*, so meagre is the literature of the subject. This paper is offered, therefore, merely as an introduction to an interesting and difficult subject. In order to facilitate its study an arrangement into two main groups has been made.

The first group includes affections of speech due to organic brain lesions involving the ganglionic centres, or conducting nerve tracts, which serve the purposes of speech, as follows:

1, Paretic speech; 2, Alcoholic and other toxic speech disorders; 3, Scanning speech; 4, Organic dementia with aphasia in its various forms; 5, Defects of speech in idiocy and imbecility.

The second group consists of affections of speech which are the immediate outcome of the physical disease. These are as follows:

1, The formation of new words; 2, Echo speech; 3, Rhyming and repetitive speech; 4, Histrionic speech, including gesture language; 5, Retarded and accelerated speech; 6, Muteism; 7, Abulic speech.

The consideration of these affections will now proceed in the order above adopted.

Certain physiological and anatomical facts in this complex subject of speech and its mechanism have been sufficiently established by many experiments and repeated pathological observations. It is now known that there are cortical speech centres, that there are articulatory centres in the pons and medulla, and that these are in connection with the origin of the nerves innervating the muscles concerned in articulation. Now lesions in any of these regions may impede or destroy the power of speech, and they are uniformly present in all the affections of this first group of which paretic speech is the type. The chief characteristics of paretic speech are retardation, indistinctness, repetition of syllables or words, failure of lingual or labial sounds, tremor of voice, nasal intonation and explosive utterance. They are seldom all present in the same patient.

The slowness and hesitation of speech are often the result of cortical lesions, which give rise to diminished attention and memory and general retardation of all psychical acts. The drawling in other instances may be attributed to impeded transmissions of cortical and volitional impulses to the basal articulatory centres, or in tabetic cases to lesions of the origin of the nerves of speech.

The repetition and stuttering are also to be ascribed to cortical and psychical lesions rather than to those of the basal phonic centre. In the early stage it is only under emotional excitement that the balbuties is wont to appear, and this would also seem to show that it is of psychical origin. The failure in the lingual and labial consonants arises from incöordination of the muscles of the tongue and lips and is highly characteristic. The unevenness and tremor of the voice proceed from incöordination and insufficient action of the diaphragm, intercostals, and of all themuscles which tend to produce an even pressure of the outgoing vocal current of air. The nasal intonation is the result of relaxation of the soft palate and of the nasal and pharyngeal membranes. The sudden interruption of voice followed by explosive utterances is caused by spasmodic glottic closure. All these various affections are exaggerated under emotional excitement. In ascending cases of general paralysis the speech is not apt to be affected until the ascending spinal lesions have involved the nervous centres of the medulla, whence spring the motor speech innervations. It can readily be understood, therefore, what a varied pathology these affections of paretic speech may have. The lesions may be in the cortex, in the lenticular necleus and internal capsule, in the pons or

the basal articulatory centres, or at the central origin of the motor nerves of speech.

A hasty glance must now be given to the next topic in order, which is alcoholic and other forms of toxic speech. The defects of articulation here are not due to incöordination, but to motor impairment and to actual failure of innervation. In other words, the speech of general paralysis is ataxic, while alcoholic speech is truly paretic. In alcoholic speech there may be simply a fine tremor of the tongue and lips, causing impaired articulation. In other cases there are decided spasms of these organs of speech, which give rise to obvious defects of pronunciation. In the most complete cases of alcoholic dementia there is a fully developed paresis of the tongue and lips. Alcoholic speech is ordinarily accompanied by more general convulsive facial movements than are found in general paresis, and there is also early present a peculiar hoarseness valuable in the differential diagnosis of alcoholic from paretic speech, and the retardation of speech is often greater in the alcoholic than in the paretic dement. In the other forms of toxic insanities, from lead, mercury, opium, chloral, and a host of deleterious agents capable of seriously damaging the nervous centres, the speech may be affected in many ways.

The writer has seen tremor, retardation, stuttering and a variety of minor affections of speech from these causes. In some of these instances the affections of speech are functional and in others they are due to actual lesions of nerve cells and of conducting fibres. In this connection is to be mentioned also the influence on brain centres (already weakened in insanity) of various blood poisons Thus acute intercurrent diseases and diathetic states in the insane derange speech in various degrees. Thus arise temporary aphasic disorders following zymotic fevers, aphonia in phthisical and scanning utterance in syphilitic insanity, choreic speech in rheumatic and sudden temporary loss of language in podagrous cases.

In regard to the action of fevers it is well authenticated that dements who have been mute for years will resume speech under the feverish stimulation of cortical centres. It is also no longer a matter of doubt that the same class of patients may regain speech and even a certain degree of lucidity during the last hours of their life. Scanning speech in its most typical form is found only in cases complicated with multiple cerebro-spinal sclerosis.

There is a species of scanning speech, however, found both in paretic and alcoholic dementia. Next in order are the speech affections of organic dementia and its various forms of aphasia.

Organic dementia as here understood includes all forms of mental disease from embolism, thrombosis, encephalitis, tumors, and other gross lesions of brain substances.

A common form is cerebral hemorrhage with hemiplegia and more or less permanent mental disorder.

It is in connection with such gross brain lesions that the different forms of aphasia appear and as there are no affections of speech of greater interest they are here passed briefly in review.

In the first place there is motor aphasia with a pathology of lesions in the left, third frontal convolution. It consists in a loss of memory of the motor coördinations essential for the utterance of words. The patient has forgotten how to pronounce, and can neither speak nor can he repeat words spoken in his presence, though he can understand what is said to him. In other cases there may be loss of recollection of the manual efforts necessary to form letters. This agraphia renders the patient unable to write or copy that which is written, and is probably due to lesions of the posterior part of the second frontal convolution.

There is also among the insane a purely amnesic pseudo-agraphia not connected with any local brain disease. In these cases the patients may invent a sort of handwriting of their own for the one which they have forgotton. They may still be able to copy writing. This is not the same state as that of certain dements who can only write when the words are dictated to them, and may not be able to construct sentences of their own accord.

When the lesions in organic dementia involve the posterior part of the first and second temporal convolutions word-deafness may be produced. This affection consists in inability to recall the sounds of words or to recognize these sounds when made by others, so that the patient cannot conduct or understand conversation.

As a matter of differential diagnosis it is important that this affection should be understood, as two instances are on record in which patients suffering from word deafness were mistaken for insane persons, and treated accordingly. When the lesions involve the inferior parietal convolution and the angular gyrus the patient may have word-blindness, that is to say, he forgets the form of words and he can neither write nor read writing.

Both in organic dementia and in general paralysis of the insane there is another form of aphasia which consists in the loss of the memory of sensory perceptions, and in the inability to recognize

the nature of things through the ordinary channels of the special senses. The speech of course is affected in proportion as the cortical residua of past sensory perceptions are destroyed by disease.

Thus a patient may look at a bell and fail to recognize it, and may call it by some entirely different word. If the bell is made to sound, however, he may through the revival of past auditory perceptions recall the true nature of the object. In this instance the patient has psychical blindness. Likewise if the patient were to hear a familiar musical instrument and not recognize what it was he would be said to be psychically deaf. Or if he fail to recognize familiar odors he would be said to have psychical anosmia.

In like manner the memory of the visual, auditory, olfactory, and tactile perceptions for different objects may be individually or collectively lost, and cause a corresponding confusion or loss of speech. It is to be hoped that the diagnosis and clinical study of these cases of apraxia may be more frequently made in the future, and that autopsical examinations may throw additional light on the subject of their pathology.

The alienist must be familiar with all these speech affections lest he should mistake them for an essential part of the insanity attending gross brain lesions, and fail to recognize convalescence, and the proper time to begin the reëducation of the patient as regards speech. Finally in this group of affections of speech from brain lesions are those decided defects or even entire absence of language from early arrest of cerebral development. In the congenital forms of idiocy, when the brain has not attained more than an embryonic growth, there is absence of speech or only a few half articulated sounds are present.

In microcephalic cases there is a possibility of education of the powers of speech so that simple wants may be expressed.

In idiocy acquired at three or four years, or later, there may be a childish command of language or in exceptional cases an almost incessant and trivial use of speech. Under the influence of music or of sudden emotions idiots, otherwise silent, will speak a few words. There is also in idiocy as in chronic states of insanity the automatic repetition of the same words for hours or days together, as well as the parrot-like repetition of words with which no idea is connected.

Imbecility also presents a variety of defects of speech, some

due to physical malformations of speech organs, though the majority proceed from native insufficiency of brain development. Not a few imbeciles have quick memories for details and enough ideas and imagination to talk incessantly with entire lack of inhibition of thought. The opposite state of this logorrhœa is also found in imbeciles who speak only on rare occasions.

Both idiots or imbeciles use sometimes old words in a new sense or invent words of their own to express their wants or their ideas. This is analogous to that peculiar individual use of sounds or words often made by very young children. In some families successive children will use the same words in like manner, or each child may have its own little language and may even retain some of these peculiarities until it is grown. The whistling, clicking, sucking, blowing, hissing and grunting sounds made by these automatic beings with only half developed intellects are very similar to the many inarticulate cries and sounds made by patients in the terminal stages of insanity. Echo, speech and gesture-language are also commonly observed in these originally defective patients. In accordance with the previous division the first derangement of speech in the second group to which attention is now called is the formation and use of new words. It is a fact of common remark that the insane often make a striking and original use of language. It is also a point of less frequent observation that they use words in an entirely new sense. There comes a time, however, when neither of these resources is sufficient to express the weird fancies or the strange emotions which crowd the mind diseased, and some new collocation of sounds is often uttered and repeated, and finally comes to represent some, more or less, definite thing.

Only a few of the queer vocal utterances of maniacs, more especially, ever attain to the dignity of new words. They often continue for hours making sounds, more or less articulate, which have only a momentary relation to their fleeting fancies; but every now and then they hit upon a combination of sounds which chime in happy accord with some crazy idea, and by repetition come to represent it. It is well known that tastes, odors, and especially colors, arouse agreeable or disagreeble ideas in the insane. Likewise, some sounds rather than others suggest pleasing things, and are by preference adopted in their new vocabulary. Just as in the healthy mind, the fixed principle of association of ideas governs all verbal processes, so in the mind diseased there is a

definite pathological law which controls this formation of new words. Sometimes there is a certain relation between the sense and the sound of the new words which seem to have been suggested in accordance with the law of onomatopœia. Words thus newly formed by the insane are often used, more or less, consistently for months or even for years. More than twenty years ago there came under the writer's care an intelligent captain who chiefly from the hardships of war lost his reason. For a long time his chief delusion was that he was Jesus Christ. Later he developed a variety of grandiose insane ideas. He was orderly and the very pink of politeness, and he remained employed as a reliable copyist. He coined a great variety of new words with open vowel sound freely interspersed with the letter R, which he rolled vigorously. When walking alone he would speak these sonorous phrases in a most earnest tone of voice, and he claimed that they were a means of communication between him and the Almighty. This man is still living. He has married, settled down and raised a large family. He has the same religious delusions, and he still speaks aloud to himself words which he coined twenty years ago.

It may be said finally that this formation of new words is most common in imbecility, in paranoia, and in chronic mania.

The next point to be considered is echo speech. This is the automatic repetition of words spoken in the presence of the patient and with which he associates no definite conception. The automatic repetition of words is most common in congenital states of mental weakness or in cases of secondary mental enfeeblement. Some terminal dements never speak except to thus echo back words pronounced before them.

Occasionally there is a case in which all spontaneity and free speech have not disappeared and with them it is not uncommon to find an echolalia not of words simply, but of entire sentences. A number of cases have been observed by the writer in which no satisfactory response could be elicited by questions, but all short categorical phrases addressed to the patient were automatically repeated "verbatim et literatim."

Probably the explanatory principle involved here is simply that of imitation, which exists so markedly in all low forms of intelligence. At any rate this echo speech is very common in all kinds of early arrest of mental development, as well as in dementia, paranoia and hysterical and epileptic insanity.

In patients who will only communicate by writing a species of echolalia is sometimes found, in that questions put to them are simply repeated in writing. This was the case of a deaf mute capable of communication if he chose, who often would only rewrite the questions put to him.

Rhyming and repetitive speech also now claim a brief notice. By rhyming is not meant the poetical composition of the insane, but rather the habit of expressing the most commonplace things in phrases which rhyme. Versification and rhythm as a rule are out of the question here, and words that have a like jingle are interjected at random in the conversation. Now and then, however, in a patient of some native talent for verse making, there will be developed under abnormal cortical excitation a most astonishing fluency in rhyming. Rhyming is most apt to be found in pubescent insanity, in paranoia and in chronic mania.

Repetitive speech, unlike echo speech, is independent of outward auditory impressions and consists in the repeated utterance of the same phrases or words, which may or may not convey a definite meaning to the listener, though they usually are connected with some idea in the mind of the patient. It is probably a morbid irritation of cortical speech centres with a narrowed range of thought that thus impels the patient to repeat over and over again the same words or sentences for hours or even days together. This condition must not be confounded with the constant repetition of prayers in patients suffering from religious fears or the reiteration of harassing delusions. The most typical instances of repetitive speech are apt to be found in maniacal states.

It is of interest to mention also in this connection the spelling habit of speech among the insane. The words are spelled before they are pronounced. Sometimes each syllable is given a distinct separate utterance before the word is pronounced as a whole, and again the words are rapidly spelled and the entire sentence then spoken. This affection of speech sometimes coincides with maniacal recurrences and is likely connected with pathological irritation of cortical speech centres.

The next point noted in the division of this subject is histrionic speech, including peculiarities of intonation and gesture language. Like genuine cases of ecstacy and trance, the typical histrionic state in the insane is exceeding rare. Out of many thousands of cases of mental disease which have been under the writer's care, it has been his good fortune to witness only a few instances of in-

sane histrionism. In these, however, the elocution was so sustained and remarkable, and the acting of such a highly dramatic character as to excite the forcible conviction that even Shakespeare, in his most extreme delineations of insanity, had not overstepped the mark, but had simply held the mirror up to nature. In many of the acute forms of insanity there is also a transitory acting out of the strong feelings which agitate the mind. Anger, hope, fear and hatred, are frequently depicted in the insane countenance as well as by the voice and gestures. The emotional changes of the voice are so sudden, in keeping with the rapid succession of emotions, as to differ from any changes of speech heard in health, and to thus furnish a valuable means of detecting malingerers, who almost invariably fail in attempting to imitate these emotional vocal effects, however well they may succeed in other regards.

It is needless to enlarge on the varieties of histrionic speech in the insane. There are tragedians, comedians and clowns among them. There is the acute melancholiac, frenzied with delusions of loss of friends, fortune and honor, breaking out finally in the most tragic speech, with arm uplifted for a homicidal or suicidal act. There is the chronic maniac—self-styled queen of heaven, it may be, with mincing mien and affected loftiness of speech, condescending in her tones of voice, fantastically arrayed, and acting the part of the veriest comedian. And finally comes the clown in the form of some half imbecile or partial dement, grimacing, gesticulating, whistling, grunting, sputtering and going through all the motions of the buffoon. In this connection also must be considered the gesture language of the insane. Their pantomime is often perfect.

Gesture, in fact, is more primitive than speech as a means of expression, and it is often a resort when words fail to express the rapid flight of emotions in the insane. It remains also when speech is exhausted. Witness the outbreak of an attack of acute delirious mania. Listen to the rapid speech as it is poured forth in loud words—listen again later, as the words crowd upon one another too rapidly for distinct pronunciation, and again as the hoarse voice and dry lips give forth only half articulated sounds, and still later when the patient is voiceless, but not speechless, for he still articulates in a whisper, and finally when this fails then the gesture language becomes the means of expression. In case of voluntary mutism with refusal to write, gesture language may be for months at a time the only method of communication.

The speech of the insane is strikingly affected so far as intonation is concerned, but time will not permit more than a few lines as to these peculiarities of intonation. It is well known that there is a music of speech as well as of song—that the voice glides up and down on the musical scale of speech just as really as it does on the diatonic scale of song. Indeed, every pure vowel sound in speech is composed of a ground-tone, reinforced by harmonic overtones. It is this fact, together with the rising, falling and circumflex intonations which constitutes the musical nature of the speaking voice. The experiments of Helmboltz showed that the open Italian had more harmonic overtones than any other vowel sound, and this is one explanation of the preference universally accorded to Italian as the language of song. Now in the insane not only is there impurity in the fundamental vowel tones, but the inflections are abrupt, unnatural and disagreeable, and hence arise the loss of musical quality of voice and a peculiar harshness which is highly diagnostic. Frequently the rising and falling inflections almost entirely disappear and there remains a harsh monotone. In some cases the huskiness is due to relaxation and lack of innervation of the vocal organs.

Sometimes the insane adopt a sing song delivery and again they may intone all that they say. Passing over many minor defects in articulation and vocal mannerisms haste is made to say something of retarded and accelerated speech. In all forms of mental depression there is apt to be increased inhibition of ideas and retarded speech-rate. In all states of original psychical defect and of secondary mental enfeeblement likewise there is also as a rule slowed speech.

There is a certain time necessary for a word addressed a patient to provoke a response. It takes time for the auditory impression to reach the cortical acoustic centres—time for conscious thought as to the answer to be given, and finally time for the words willed to be spoken to be actually emitted by the mechanism of speech. The delay may be in any of these channels in retarded speech, though it is more often in the conceptive than in the emissive sphere. Numerous observations by Bevan Lewis and others have shown that the reaction time for acoustic stimuli is from 12-100 to 18-100 of a second in health, whereas among the insane it is often increased to 30-100 of a second.

Alcoholic and paretic dements ordinarily furnish the most decided retardation of speech-rate, though the most typical case that

the writer ever saw of this speech affection was in an epileptic case of insanity.

Accelerated speech like increased thought-rate is found chiefly in maniacal cases. In them all inhibition is wanting and thoughts surge into consciousness without let or hindrance and are uttered as fast as the organs of speech can possibly act. English orators having the most rapid diction are said to average two hundred words per minute. It is safe to say that some maniacs surpass this degree of rapidity of utterance.

In striking contrast with those patients who speak volumes in a short time are those who never utter a word. Mutism is however a rarer condition than logorrhoea. Apart from terminal dementia stuporous states, melancholia attonita, acute primary dementia, and idiocy, mutism is uncommon. Occasionally a patient under the influence of delusions will condemn himself to obstinate silence for months or even years at a time and may then resume speech as usual. But it is difficult for one in full possessiou of his powers of speech to refrain from using them. It is indeed astonishing that patients who have been mute for years will resume speech suddenly. Esquirol mentions a case that began to speak again after 30 years of silence.

Finally there is to be noticed in this group of affections of speech which are the immediate outcome of the psychical disease, abulic speech. It is due to morbid instinctive tendencies to commit improprieties of speech and is immediately associated with loss of inhibition. The patient has an impellent idea to impudence, profanity, or obscenity, and has not sufficient self-control to resist it. They are fully conscious of the nature of their offensive speech and are often immediately after the act penitent and even bitterly self reproachful. Still their outbreaks continue in many cases with about the same regularitly as epileptic explosions. This affection is to be distinguished from the objectional language of acute and chronic maniacs or dements or of any other class of patients not fully aware of the nature of that which they utter. The impellent idea may relate to the pronunciation of one or more words, or the tendency may be to seize on every opportunity to outrage the decencies of speech. In one instance under the writer's observation the offensive words were interjected suddenly without any connection with the conversation, which was then carried on without a break as if nothing unusual had been said.

It may be said that abulic speech is most common in hysterical

and epileptic insanity, and in paranoia and the instinctive insanity of childhood. Finally the involuntary speech and ejaculations which occur in choreic insanity deserve to be mentioned. There is a psychical as well as a muscular chorea in these cases and words escape voluntary control and are often thus uttered to the chagrin of the patient.

If in thus passing hastily in review some of the chief affections of speech in the insane this article shall lead others to a more extended study of this subject, it will have attained its chief object.

A FRESH METHOD OF BRAIN EXAMINATION.

BY J. J. KINDRED, M. D.,
Clinical Assistant at the Royal Edinburgh Asylum, Morningside, Scotland.

This method, introduced by Dr. W. Bevan Lewis, a detailed account of which we believe, has not hitherto appeared in any American journal, has been found so valuable and so convenient that it is, after personal experience with its results, recommended as having special advantages over the older, continental methods of preparing sections of brain by hardening processes. Being applicable to the quick examinations of sections from both healthy and diseased brains, it renders investigations into the normal and morbid histology of this organ practical and easy to the alienist, without involving either much time or a profound knowledge of the methods employed in pathological research.

A method bringing out, as this alone does, such a wealth and variety of structure, was indeed a desideratum long felt previous to the introduction of the present process by Dr. Bevan Lewis.*

The procedures are briefly as follows: Procure several round glass dishes about four inches deep and eight inches in diameter (these to be fillled with perfectly clean, clear water); a proper section knife, and a Lewis freezing microtome. Have the microtome securely fastened to a table and keep at hand several clean glass slides, a fine camel's hair brush, a pipette, a bottle of aniline blue-black solution ($\frac{1}{4}$ of one per cent) made from the ordinary granular powder, and also a solution ($\frac{1}{4}$ of one per cent) of osmic acid.

The microtome combines an instrument for cutting the fresh sections now under consideration, and also one for preparing sections of hardened brain, cord and nerves in weak, paraffine and celloidine. While differing in important particulars, it is in general principle like other instruments of the kind, having a section plate and a freezing chamber, the roof of which latter is formed by a metal cap for receiving the brain or other substance to be frozen. Its thumb-screw, by which this metal cap is elevated or lowered, has many delicate threads, admitting of the slightest elevation or lowering of the brain tissue on the cap; thus making it possible to cut the thinnest sections by proper manipulation.

* Vide "The Human Brain" by Dr. Bevan Lewis.

Another feature of the instrument is a condensing chamber which condenses and collects the ether (used in the freezing process) that would be otherwise wasted.

The section knife, made for the purpose and costing about fourteen shillings, has a blade (about five inches long and 1¼ inches wide) slightly concave on both surfaces, the surface above in section cutting being more concave, so as to retain a sufficient quantity of water.

To prepare this upper surface for use it is covered with ether and then dipped at once into water, this being repeated three or four times to secure a uniform covering of the surface by a thin layer of water, and to prevent undue adherence of sections to blade. An equally effective way of preparing the upper surface is to pass the blade through a piece of brain tissue several times. A piece of brain about one-half inch thick and three-quarters of an inch deep is cut transversely from the ascending frontal convolution and a similar piece from the ascending parietal where these unite to form the paracentral lobule, inasmuch as in these parts the motor cortex is represented most typically and also the transition into the sensory type of cortex. Care is taken to preserve the pia mater intact, since important structures lie between it and the cortex cerebri. The safest way of obtaining a piece of this membrane is to remove portions of two gyri in apposition with each other: each section will then contain a portion of the pia situated between these.

Having sharpened and prepared the knife, the piece of brain is placed upon the metal cap of the freezing chamber, which has, by means of the thumb-screw, been brought down on a level with the under surface of the section plate. The edges of the tissue having been first wet with a couple of drops of water, which, when frozen, serves to hold it in position, the freezing process is now begun by keeping a spray of ether continually playing on the lower surface of the cap, directed beneath the tissue.

The freezing can be greatly facilitated by a current of air, which, however, is not absolutely necessary. Thus freezing the substance to be cut up to the level of the section plate, a sweep of the knife removes the unfrozen part above, and sections are cut from the surface thus obtained by a pushing (not lateral) movement of the knife, the knife being dipped into water just before cutting each under section, and its under surface then dried by passing it quickly across a towel placed on the knee. The sec-

tions are then conveyed on the knife to a vessel of clear water, into which they are carefully floated off the blade, and then at once taken up on a glass slide, the superfluous water being allowed to drain off. The section is floated up by a few drops of the osuric acid solution dropped gently from a pipette, and then has some of the fluid drawn carefully over its top by means of a very delicate camel's hair brush. The osuric acid having acted for a few seconds only, the section is placed in pure water for five or ten minutes and gently washed. By means of the osuric acid the medullary substance of the section is fixed and the latter made more manipulative, whereas before the application of the acid water acts detrimentally upon the tissue, causing effusion of the myeline. (After its use the section can be left in the water with impunity.)

The reagent is applied for so brief a period not with the object of producing the specific osmium staining, but to cause a fixation of the myeline.

Each section being again carefully taken up on the center of a glass slide, staining is proceeded with, either the aniline blue black solution or any other stain being used. If aniline blue black be used, this is best done by covering and floating each film, as it lies on the slide, with the staining fluid for the space of from one-half to one hour. The excess is then poured off and the films put into a vessel of water for gentle washing, they being again washed in a small quantity of distilled water.

Being put again on a glass slide, the fluid is drained off, and the slide put under cover on a slanting shelf and the film allowed to dry spontaneously. When absolutely dry it is mounted in the usual way in Canada balsam and is then ready for examination with the microscope.

In sections thus prepared and stained with aniline blue black, the following structures are portrayed in the cortex: The nerve cells arranged in their different layers, with their nuclei and processes; connective tissue corpuscles (both round and Deiter's cells); blood vessels; pia mater with its attachments to cortex. The intercellular substance in a normal and well stained section is of a delicate bluish gray tint, in marked contrast to the more deeply stained structures above mentioned. In diseased conditions this acquires a deeper tint. In the central, medullary substance, connective tissue elements and axis cylinders are stained. This method depicts the cerebral structures in their perfectly nat-

ural appearance, and has many obvious advantages over any hardening method by which shrinkage, contortion and other artificial conditions result. It needs but a glance at sections prepared after the fresh and hardening methods respectively to establish the superiority of the former.

The artificial spaces seen around nerve cells in hardened sections are absent in the fresh; the nerve cells, as can be proved by direct measurements, are considerably larger in the latter, and this may be said of the processes of these cells, the connective tissue cells and the layers of the cortex, individually and collectively.

One may especially mention the exceptional manner in which the spindle cell (the importance of which has been considerably enhanced of recent times) is brought out by the aniline blue black stain.

Experience teaches that great care must be exercised in the staining process. Diseased brains, such as those of alcoholism and general paralysis, react rapidly to the aniline dye; sections from such, therefore, require a comparatively short period of staining and may be easily overstained. Such overstained sections are often rejected as useless, when in reality they are important for examination, since it is in virtue of disease that overstaining has resulted. While most structures are so perfectly stained with the aniline blue black alone, particular elements (such as the leucocytes crowded around the blood vessel walls in inflammatory states, acute and chronic, especially in general paralysis,) are rather better brought out by other aniline dyes, especially alkaline methyline blue in aqueous solution and gentian violet.

Strange to say, the present method has been, up to quite recent times, little used on the continent; nevertheless, its application by numerous workers in Great Britain has demonstrated the grave inaccuracies of the hardening process, and has already shed a flood of light upon the histology of the brain.

DESCRIPTION OF THE MOTOR AREA OF THE CORTEX CEREBRI OF AN INFANT.

BY EDWIN GOODALL, M. D., LONDON.
B.S.,M.R.C.P., Pathologist, West Riding Asylum, Wakefield, England.

I lately had the opportunity of examining sections from the brain of a child æt. 18 hours precisely. It died in consequence of an accident; the autopsy showed all the viscera to be healthy. The case is of interest partly on account of the early age of the child, but mainly because the examination was made after the fresh method, which has not, so far as I know, been employed in a similar instance. It is now widely admitted that sections obtained from the fresh brain (ether-frozen) and stained with aniline blue-black, which has an extraordinary affinity for nerve structures proper, present unrivalled pictures of the cerebral cortex. The detrimental (corrugating) effects of the chrome salts can immediately be appreciated by comparison of sections obtained from tissues hardened in them with others made after the fresh method. I refer exclusively to brain tissue.

The brain in the present case was exceedingly soft, and suitable sections were obtained with much difficulty. Unfortunately those made from the upper end of the ascending frontal gyrus (a site at which the cell groups of Betz are peculiarly large and numerous) underwent partial dissolution in the staining fluid, so soft were they. However, sections made at the junction of the upper and middle thirds of this gyrus proved complete at the end of the staining process, and as at this site the motor cortex is sufficiently typical they were selected for description.

Description of Cortex and Subjacent White Matter—The outermost layer is very well defined. Under a low power it is obvious that this layer contains many more elements than are present in the similar region of the adult cortex. Under a high power these are found to be mainly round, but also angular, oblong, oval, and pear shaped, and to have taken the stain very deeply. They can scarcely be other than connective tissue nuclei. Besides free nuclei, others occur which have an incom-

plete investment of faintly stained protoplasm, but these are in a decided minority. The delicate spider cells with vascular processes, which can be seen (on careful examination) in this layer in the adult cortex, are completely absent in the present specimen; but it is interesting to note that some of the nucleated clumps of protoplasm are in apposition with blood capillaries; possibly they and the other irregular protoplasmic masses mentioned above represent a very early stage of the spider cell. Blood capillaries are present in far greater numbers than in the fully formed outermost layer, their longitudinally placed nuclei being also peculiarly numerous and well marked. The diameter of the capillaries ranges between 2 μ and 4 μ (in the adult cortex it is often 4 μ).

The neuroglia-matrix is pellucid and homogeneous. As regards the size of the connective tissue nuclei, the round ones are from 4 μ to 6 μ across, the others (oval, oblong, etc.,) from 6 μ to 10 μ in greatest diameter. At the junction of cortex and pia the usual felt work of fibres connecting these two structures can be seen, though it is more delicate and less dense than in the adult.

Beneath the outermost layer is a belt of tissue, deep-blue in color, nearly 150 μ broad, marked off sharply from the superjacent layer, but passing rather gradually into that beneath. This is a very prominent feature of the specimen. Under a low power it appears to be composed of deeply-stained nuclei, very closely set, an appearance verified on further magnification. Most of these nuclei have no covering. They measure from 6 μ to 9 μ at greatest diameter. Others appear partially surrounded by lightly stained protoplasm, and in such cases the structure presented may be termed a rudimentary cell. Very rarely such rudimentary cells present a slightly pyramidal form, the small amount of protoplasm outside the nucleus being in contact with the part of the latter nearest the outermost layer, the resulting shape being that of a short, blunt cone. But even in such rare instances of pyramidal type no trace of a process is visible. Many of these nuclei and young cells are irregularly angular; frequently they consist of mere lumps of protoplasm, without particular shape. Some of them are clearly nerve cells, and most can doubtless be placed correctly in the same category. But the ordinary criteria for distinguishing between nerve cells and connective tissue cells do not invariably furnish positive conclusions in the present specimen.

In this connection it may be noted that the nerve cells of the second layer in the adult cortex are closely aggregated in comparison with those of other layers, though far less so than are the protoplasmic masses of the present specimen. The average size of the nucleus in this (second) layer in the adult is given as 6 μ, (Bevan Lewis,) the length of the nerve cell varying from 11 μ to 23 μ. The nuclei of the second layer of the present specimen would therefore appear to be, proportionately to the size of the rudimentary cells, decidedly large. This layer, like the first, is rich in blood capillaries.

The portion of cortex beneath the second layer—out of which one must suppose that the third layer (or a portion of it, at any rate,) and the fourth and fifth layers of the fully formed cortex develop—does not, in the present case, permit of division into strata. Had specimens been obtained from the upper end of the ascending frontal gyrus, it is probable that "motor" (giant) cells in an early stage would have been seen, of sufficient prominence to constitute a layer. In the present specimen, though these are distinguishable with a high power, they are few and scattered and cannot be employed for the purpose of differentiation.

In traversing this stretch of cortex, extending between the dense second layer and the white substance, the eye encounters numbers of deeply stained structures, round, oval, angular, irregular. Some of these are doubtless connective tissue nuclei; others—distinguished by the presence outside them of a lightly stained substance, protoplasm, and by their pyramidal shape—appear to be nerve cells. The cell-substance is, however, in very small amount; and placed at one side of the nucleus, rarely, it partially envelopes the latter. An exception must be made in the case of certain nerve cells situated quite near the lower limit of the cortex: the nuclei of these are distinct from all others in that they are completely surrounded by protoplasm. Further, the pyramidal shape in many of them is unequivocal, though—as is the case throughout the cortex—no processes are visible, or at most the commencement of an apex process; lateral and secondary processes are never seen. These cells are the largest in the specimen, many of them measure 12 μ x 9 μ, 15 μ x 9 μ, 18 μ x 9 μ (the length being taken from the base to the extreme upper limit of the rudimentary apex process). They probably represent an early stage of development of the giant ("motor") cell. Rarely they occur in groups of three and four,

(as in the adult), but are more commonly separate and scattered. The rich staining and comparatively large size of the nucleus in all cases in which cell substance is present and a contrast afforded are remarkable. It may here be mentioned that aniline blue-black, while giving a rich nuclear stain, fails to show the structure of the nucleus.

Distinct from the undoubted connective tissue nuclei on the one hand and the rudimentary nerve cells on the other, are certain large nuclei, often measuring 9 μ x 6 μ, irregularly oval or pyramidal in shape: these may with much probability be regarded as consisting of nerve tissue proper, though devoid, at present, of cell-substance.

There is a complete absence in this specimen of the striking appearance presented in the adult by the numbers of cell processes streaming upward towards the periphery of the cortex.

Blood capillaries are abundant throughout the portion of cortex just considered, their diameter being the same as that of the vessels of the external layer, which has been given. I have been unable to make out the vascular loop around the nerve cell, described in the adult cortex, and am of opinion that it is by no means so evident in the latter case as descriptions would lead one to suppose.

One especially expected to see the pericellular lymph-sacs in sections taken from cortex at such an early period of life. The fully formed nerve cell of the adult apparently occupies the whole space in which it lies, since nothing can be seen of the space in ordinary fresh specimens, and it would seem that the same would hold good in the cortex of the young; at any rate, I have not succeeded in finding pericellular sacs in the present specimen. It may be that fresh specimens would show these lymph spaces if prepared after a special method: I can not speak definitely upon this point. [Hitherto I have only succeeded in seeing them in the cortex of the cat; the specimen had undergone preliminary hardening, but the pericellular spaces in this instance were obviously natural, and not merely the outcome of retraction of tissue.]

In the lowest part of the cortex, cells with a distinctly spindle shape—such as constitute the characteristic feature of this part of the adult cortex—can be seen scattered about in small numbers. But here, as throughout the grey matter, deeply stained nuclei, naked, or with incomplete protoplasmic investment, form

the most prominent feature. Capillaries in large numbers are again met with.

The state of the central white matter may now be referred to. Connective tissue nuclei are present here in great numbers, and very many have a well marked protoplasmic investment. The contrast with the cortex in this regard is very marked; in the latter the investing sheath, if present, is imperfect. The size and depth of staining of the nuclei also attract attention. The intercellular substance is remarkably clear; the granular, blue-tinted basis-substance seen in adult specimens is represented here by a faint grey mottling. The larger blood-vessels exhibit numerous hair-like processes, passing out to cells or oval nuclei; they are seen with peculiar distinctness. The structures described are the vascular processes of the so-called scavenger cells. It is interesting to note that blood-vessels below the largest in size do not present them.

In contrast to the cortex just described, I may here refer to that of a healthy boy, æt. 2 years, which I lately examined by the fresh method. The specimen was from the motor region. This shows well marked differences between the second, third and fourth layers in regard to the size and shape of the nerve cells, which become larger and more perfectly pyramidal as one proceeds from above downwards. The five layers described in the adult motor cortex can be made out well. Cell processes, —especially apical—are well marked and run a considerable distance; they end, however, abruptly, with a blunt extremity. Connective tissue structures can be readily distinguished from nervous structures.

In the specimen which is the subject of this paper one is struck by the trifling difference apparent between the nerve cells in point of size, shape, and richness of protoplasmic investment, as one proceeds from without inwards. No striking difference is seen until one suddenly encounters the cells in the deepest part, above mentioned. Only three layers can be properly differentiated; of these the third comprises all that portion of cortex subjacent to the belt of deeply stained nuclei. In this layer it must be supposed that differentiation takes place at a later period.

The prominence of the nucleus throughout—whether of nerve or connective tissue cell—and the vascularity of the cortex call for special mention.

THE ORIGIN OF INSANITY.*

BY R. M. BUCKE, M. D.,†
Superintendent of the Asylum for the Insane, London, Ontario.

Putting aside such comparatively rare causes as traumatism, sunstroke and syphilis, and speaking broadly and generally, the aetiology of insanity as commonly given may be reduced to two heads:

1. Heredity.

2. Mental, emotional or bodily strain of one kind or another.

But it is an obvious criticism that we must have insanity before it can be inherited, and that strain of every conceivable kind and degree is undergone by thousands of persons every day and even carried to the point of causing death without resulting insanity.

This being the case, it seems clear that we must revise our theory of the causation of the group of maladies in question, and I am anxious to add my mite toward a truer and more comprehensive explanation.

Some here present may perhaps pay me the compliment of remembering that ten years ago at Cincinnati I read a paper on the "Growth of the Intellect." In it I tried to show that human intelligence, starting far back in our remote ancestry from an aboriginal germ, concept or precept, and as it were sprouting therefrom (as a tree from its seed) became by a process of division and branching extending through many millenniums, the manifold and highly organized function that we know by that name at present. However well or ill I may have succeeded in my self imposed task, nothing is more certain to-day than that the intellect did come into existence in the manner indicated—that is, by a long process of gradual evolution. In the same address I pointed out that ancient literature, philology and the science of optics, all concurred to prove that our color sense

* Read at the Forty-sixth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Washington, D. C., May 3, 1892.

† I desire to state that the following pages are from a work in course of preparation to be named "Cosmic Consciousness."—R. M. B.

is comparatively modern—that it probably did not exist when the Aryans, before their dispersion, still lived a pastoral horde in their original home, whether in Bactria, the Caucasus or Northern Europe. And I concluded my discourse by citing evidence that the sense of fragrance is still more modern than is the sense of color.

To-day I want to broaden what I said ten years ago into a general proposition to the following effect: The human mind, including in that term the intellect, moral nature and senses, is made up of a large number of faculties done up, as it were, in bundles. Thus the intellect is one bundle, and in it we have consciousness, self-consciousness, perception, conception, comparison, judgment, imagination, sense of humor, memory and so on. The moral nature is another bundle, and in it we have love, reverence, faith, fear, hope, hate—each one of which, and many more unnamed, could be, as you know, subdivided almost *ad infinitum* into degrees and varieties of those passions. Sight is another bundle—in it we have the sense of light and darkness, of form, of distance, of perspective, the color sense and so on. The sense of hearing another—made up of the sense of loudness, of distance, of pitch, of direction, of the musical sense and so on.

It is needless to extend the catalogue. I do not require to tell any person present (except for the sake of making my statement full and accurate) that the human mind is thus composed of groups of functions having certain definite relations one to the other, just as the fauna and flora of any given country are composed of groups of organisms having certain definite relations one to the other.

The next step in my argument, or statement, is to point out that as the human mind itself was not always in existence, but at some time or other was born and afterwards grew to what we see it to-day, so each one of these numerous faculties of which it is composed came into existence at some time or other.

And now comes the pivot fact upon which my thesis finally rests, namely, that the faculties in question are not all of the same age, but, on the contrary, some of them are very old (millions of ages), some very young (only a few thousand years), while others are of various ages between the extremes. How do we know this? Well, the length of time the race has been

possessed of any given faculty may be estimated from various indications. In cases in which the birth of the faculty belongs to comparatively recent times (as in the case of the color sense and the sense of fragrance), philology and human records (as pointed out by Geiger) may assist materially in determining the age of its appearance; but for the comparatively early appearing faculties, such as the initial intellect, self-consciousness, the sexual instinct or love of offspring, these means necessarily and obviously fail us. We fall back then upon the two following tests:

I. The age at which the faculty in question appears in the individual; and

II. The more or less universality of the faculty in the members of the race.

1. As ontogeny is nothing else but philogeny *in petto;* that is, as the evolution of the individual is necessarily a repetition in a condensed form of the evolution of the race, simply because it cannot in the nature of things be otherwise; cannot, that is, follow any other lines—there being no other line for it to follow; it is plain that organs and functions (speaking broadly and generally) will appear in the individual in the same order in which they appeared in the race—and the one being known the other may with considerable confidence be assumed.

2. When a new faculty appears in a race it will be found at the very beginning in one individual and one only of that race. Later it will be found in a few individuals. Later in a small percentage of the individual members of the race. Later in half the members, and so on until after thousands of generations an individual who misses having the faculty is regarded as a monstrosity. In illustration of this statement compare, in man, the musical sense (a faculty just coming into existence) with self-consciousness, a faculty perhaps more than ten thousand generations old; or should it be thought that the facts in these cases are assumed for the purpose of the argument, consider the case of the color sense, the age of which can be approximately fixed by philology. This sense has existed in the race barely a thousand generations, and to-day in the British islands it is said to fail to appear in one person out of every sixty. The musical sense fails to appear in the same country probably in forty persons out of sixty—while self-consciousness perhaps does not fail to appear more than a few dozen times in six thousand adult persons.

In order to illustrate how more or less universality in the race, along with the time of appearance in the individual, corresponds with the time of appearance of any given faculty in the race, the following facts may be given:

Self-consciousness appears in the individual at the age of three years and is fairly universal in the race. This is the basic human faculty—the faculty which constitutes its possessor, man. Our ancestors, before they had this faculty, whatever they were, were not men. But we do not draw the line so sharply now. There are thousands of idiots and imbeciles who never become self-conscious, and there must be many members of low races, such as Bushmen and Australians, who never attain to this faculty, but still we call these men. Self-consciousness has been in existence as long as man has been in existence—probably a few hundred thousand years.

I have said that self-consciousness appears in the average civilized man at the age of about three years. But consciousness of an external world is present in the individual man from, or almost from, birth—some three years, therefore, earlier than self-consciousness.

This faculty (that is, simple consciousness,) appeared in our ancestors very many million years before self-consciousness—and while many so called men have not self-consciousness, there is perhaps no creature which can by any latitude of speech be called man in whom simple consciousness is not found; that is, it is absolutely universal in the human race. Compare now these fundamental faculties with some which are comparatively modern.

The color sense comes into existence gradually in the individual—at three or four years of age there may be a trace of it. At eight years of age it was found by Jeffries still absent in a large percentage of children. Twenty to thirty per cent of school boys are said to be color blind, while only four per cent of adult males are so. Dr. Favre of Lyons reported in 1874 to the French congress for the advancement of science at Lille, certain observations that seemed to him to prove that congenital color blindness was curable—it does not seem to have occurred to him that the sense is normally absent in the very young. As mentioned above, the color sense is said to be absent in one out of every sixty adult persons in the British Islands. The age at

which it normally appears, therefore, and its degree of universality, correspond with the time of its appearance in the race, which, according to Geiger's researches (based largely on philology) was about a thousand generations ago.

The human moral nature includes many faculties, but for the purpose of the present argument it may be treated as if it were a simple sense. It comprises what we call conscience—sense of right and wrong, sexual love as distinguished from sexual passion or instinct, parental and filial love as distinguished from the corresponding instincts, love of our fellow men as such, love of the beautiful, awe, reverence, sense of duty, of responsibility, pity, compassion, faith. No human moral nature is complete without these and others unnamed here.

Now at what age does the human moral nature appear in individual man? You all know it is never present in quite young children. You all know it is often still absent at puberty and even at adolescence. It is a late acquired faculty—considerably later than the color sense. Then in what proportion of men and women does it fail to appear? There are so many adult men and women who have a partial moral nature, so many who, having little or no moral nature, wear (as well as may be) the outside semblance of one; the judging of men and women from this point of view is so difficult—the problem is so veiled and so complicated—that it is impossible to give more than an opinion. But read Prosper Despine's Psycologie Naturelle; read Havelock Ellis and other authors on criminal anthropology; consider the number of people with whom we, as alienists, are brought into contact, who manifestly (often confessedly) have few or none of the elements of the faculty in question, and I think you will be forced to agree with me that the number of adults who have little or no, or an undeveloped, moral nature, is far greater than the number who have little or no, or an undeveloped, color sense.

Turn now for a moment to the musical sense. This, far from being universal, is more often absent than present; it is never present except in such a monstrosity as Mozart) before full or well on to full maturity, and only dates back at most, perhaps, a few thousand years. It is an instance of a faculty in the act of appearing—not yet fully declared.

A description in detail of the evolution of the faculties of

which the human mind is composed would fill a large volume, and in order to write such a volume far more knowledge and far greater capacity would be needed than the present writer can pretend to. What has been said may serve to indicate the truth of the general thesis that these faculties are of all ages—some being very ancient, others very modern, and still others of intermediate date.

The next link in the present chain of argument may be expressed as follows: In any race the stability of any faculty is in proportion to the age of the faculty in the race. That is, a comparatively new faculty is more subject to lapse, absence, aberration, to what is called disease, and is more liable to be lost than an older faculty. To many this proposition will seem a truism. If an organ or faculty has been inherited in a race for say a million generations, it seems *a priori* certain that it is more likely to be inherited by a given individual of that race than is an organ or faculty which originated say three generations back. A case in point is what is called genius. Genius consists in the possession of a new faculty or new faculties, or in an increased development of an old faculty or old faculties. That being the case, you all know that it was necessary for Galton to write a good sized volume to prove that genius is hereditary, so far was it from being an obvious fact that it is so; and even yet the heredity of genius is far from being universally accepted. But no one ever wrote a book to prove that sight, hearing or self-consciousness is hereditary, because every one knows without any argument that they are so. On the point in question Darwin says, speaking of horses: "The want of uniformity in the parts which at the time are undergoing selection chiefly depends on the strength of the principle of reversion." That is, parts or organs which are undergoing change by means of selection are liable to lose what has been gained by reverting to the initial condition. And again he says: "It is a general belief among breeders that characters of all kinds become fixed by long continued inheritance." In another place he speaks of "the fluctuating and, as far as we can judge, never ending variability of our domestic productions, the plasticity of their whole organization," and he attributes this instability to the recent changes these have undergone under the influence of artificial selection. And in still another place Darwin speaks of "the ex-

treme variability of our domesticated animals and cultivated plants."

But I scarcely need carry this part of the argument any further. You will probably all admit that the shorter time an organ or faculty has been possessed by a race the more unstable must it be in the race, and consequeutly in the individual; the more liable will it be to be dropped; the more liable to be defective; the more liable to vary; the more liable to be or to become imperfect—as we say, diseased. And that, *per contra*, the longer time an organ or faculty has existed in any race, the more certain it is to be inherited and the more certain it is to assume a definite, typical character—*i. e.*, the more certain it is to be normal, the more certain it is to agree with the norm or type of the said organ or faculty. In other words, the less likely is it to be imperfect—what we call defective or diseased. This being allowed, it will readily be granted:

1. That the race whose evolution is the most rapid will (other things being equal) have the most breakdowns; and

2. That in any given race those functions whose evolution is the most rapid will be the most subject to breakdowns.

If these principles be applied to the domesticated animals, (who have, most of them, within the last few dozen generations been much differentiated by artificial selections), they will explain what has often been looked upon as anomalous—namely, the much greater liability to disease and early death of these as compared with their wild prototypes. For that domestic animals *are* more liable to disease and premature death than wild is, I believe, admitted on all hands. The same principles will explain also how it is that the more highly bred an animal is—*i. e.*, the more widely it has been differentiated in late generations from a previous type—the more liable will it be to disease and premature death.

Taking now these principles home to ourselves—to the human race—we find them to mean that those organs and functions which have been the latest acquired will be most often defective, absent, abnormal, diseased. But it is notorious that in civilized man—especially in the Aryan race—the functions which have suffered most change in the last few thousand years are those called mental, that great group of functions, sensuous—intellectual—moral—which depend upon—spring from—the two

great nervous systems, the cerebro-spinal and the great sympathetic. This great group of functions has grown, expanded, put forth new shoots and twigs—and is still in the act of producing new faculties—at a rate immeasurably greater than any other part of the human organism. If this is so (and we all know it is so) then within this great congeries of faculties it is inevitable that we should meet with constant lapses, omissions, defects, breakdowns.

Clinical observation teaches us every day that the above reasoning is solidly grounded. It presents to us lapses of all degrees and in unlimited varieties; lapses in sense function such as color blindness and music deafness—lapses in the moral nature in whole or in part—lapses in the intellect of one or several faculties—or lapses more or less complete of the whole intellect, as in imbecility and idiocy. But over and above all these lapses and as a necessary accompaniment of them we have the inevitable breaking down of function which has once been established which we call insanity, as distinguished from the various forms and degrees of idiocy. For it is easy to see that if a function or faculty belonging to any given species is liable for any general cause to be dropped in a certain proportion of the individuals of that species, it must be also liable to become diseased—that is, to break down in cases where it is not dropped. For if the faculty in question is by no means always developed in the individual—if it quite frequently fails to appear, that must mean that in many other cases in which it does appear it will not be fully and solidly formed. We cannot imagine a jump from the total non-appearance of a given function in certain members of a species to the absolute perfection and solidity of the same function in the rest of the members. We know that species do not grow that way. We know that in a race in which we have some men seven feet high and others only four that we shall find, if we look, men of all statures between these extremes. We know that in all cases extremes presented by the race are bridged (from one to the other) by full sets of intermediary specimens. One man can lift a thousand pounds—another can only lift a hundred; but between these are men the limit of whose strength fills up the whole gap between the hundred and the thousand pounds. One man dies of old age at forty years, another at one hundred and thirty years, and every year and

month between forty years and one hundred and thirty years is the limit of some man's possible life. The same law that holds for the limit of faculties holds also for the solidity and performance of faculties. We know that in some men the intellectual functions are so unstable that as soon as they are established they crumble down—crushed (as it were) by their own weight—like a badly built house, the walls of which are not strong enough to sustain the roof. You all know that I refer to extreme cases of so called developmental insanity—cases in which the mind falls into ruins as soon as it comes into existence—or even before it is fully formed; cases of insanity of puberty and adolescence in which nature is barely able to form or half form a normal mind and totally unable to sustain it—and it consequently runs down at once back into chaos. You know the hopelessness of this class of cases (as regards recovery), and it is not difficult to see why they should and must be practically incurable, since their very existence denotes the absence of the elements necessary to form and maintain a normal human mind in the subjects in question.

In the realm of insanity, properly so called—that is, excluding the idiocies—these cases occupy the extreme position at one end of the scale, while those persons who only become maniacal or melancholic under the most powerful exciting causes such as child-birth and old age occupy the other end. That is, we have a class in whom the mind without a touch crumbles into ruin as soon as formed or even before it is fully formed. Then we have another class in which the balance of the mental faculties is only overturned by the rudest shocks, and then only temporarily, since the cases to which I refer recover in a few weeks or months if placed under favorable conditions. But between these two extremes, as you all well know, we have the whole wide space filled with an infinite variety of phases of insanity, exhibiting every possible condition of mental stability and instability between the two extremes mentioned. But throughout the whole range of the insanities you will find this law holds, namely: that the latest evolved of the mental functions, whether intellectual or moral, suffers first and suffers most, while the earliest evolved of the mental and moral functions suffer (if at all) the latest and the least.

If the mind be likened to a growing tree (a perfectly apposite

simile) then one may say that the lesser onsets of insanity shrivel its leaves—paralyse, or partially paralyse their functions for a time—the leaves standing for the later formed and more fragile emotions and concepts and especially for the later formed combinations of these. That deeper attacks kill the leaves and damage the finer twigs; that still more profound disturbances kill the finer twigs and injure the larger and so on until in the most profound and deep-rooted insanities—as in the developmental dementias—the tree is left a bare ghastly trunk without leaves or twigs and almost without branches.

And in all the process of destruction the older formed faculties, such as perception and memory, appetite for food and drink, shrinking from injury, and the more basic sense functions endure the longest—while, as has been said, the latest evolved functions crumble down first—then the next latest and so on.

A fact that well illustrates my main thesis—that insanity is essentially the breaking down of mental faculties which are unstable chiefly because they are recent and that it rests therefore upon an evolution which is modern and still in progress—a fact, I say, that well illustrates this thesis is the comparative absence of insanity among negroes.

I have said, as you know, that the large percentage of insanity in America and Europe depends directly upon the rapid evolution in late millenniums of the mind of the Aryan people. I suppose very few would claim that the negro mind is advancing at anything like the same rate. As a consequence of these different rates of progression we have in the Aryan people of America a much higher percentage than is found in the negro race.

When the United States census of 1880 was taken it was found that among forty-three million white people there were eighty-six thousand insane—exactly one in five hundred—while among six and three-quarters million negroes only a little more than six thousand were insane, or a proportion of only about one to one thousand one hundred.

Doubtless if we had statistics of other backward and stationary people a similar state of matters would be found—all such facts as we have leading to the conclusion that among savages and semi-savages there exists comparatively little insanity.

In conclusion, the results at which I have arrived in this paper may be summed up as follows:

1. All mental faculties arose each in its time and they are of all ages—many of them being quite modern.

2. The date of birth of a faculty in the race may be judged by the age at which it appears in the individual, and its more or less universality in the race.

3. The stability of a faculty in the individual depends upon its age in the race. The older the faculty the more stable it is, and the less old the less stable.

4. Consequently the race whose evolution is the most rapid will have the most breakdowns.

5. Those functions in any given race whose evolution is the most rapid will be the most subject to breakdowns.

6. In the more progressive families of the Aryan race the mental faculties have for some millenniums last past developed with great rapidity.

7. In this race the large number of mental breakdowns, commonly called insanity, are due to the rapid and recent evolution of those faculties in that race.

THE TREATMENT OF HÆMATOMA AURIS.

BY HENRY SMITH WILLIAMS, M. D.,
Medical Superintendent of the Randall's Island Hospitals.

The deformity caused by aural hæmatoma is seldom seen by the general practitioner, but is all too familiar to the alienist, especially to the asylum resident. The best opinion is, I believe, that the hæmatoma results always from some injury to the ear,—often a blow, often only the friction of a pillow against a restless head. A similar force applied to the ears of a sane person, or those of many insane, would not produce this result. Hence the development of hæmatoma argues a marked change in the condition of some of the tissues of the ear. This change may be due to repeated blows on the member, such as professional pugilists constantly receive. In such a case the change is local and probably circumscribed. But with the insane the initial change lies back of any injury, and is associated with changes in the brain. Whether the link of association be the vaso-motor system or the blood vessels themselves, is not altogether certain; but the salient result is defective action of the blood vessels of the ear, permitting the effusion of a quantity of bloody serum.

If not interfered with, this effusion continues until the skin is separated widely from the cartilage over the entire inner surface of the pinna, the contour of the ear becoming globose. A slight blow now will suffice to rupture the tense skin membrane, discharging the contents. If this occurs, there will for a time be a pretty active discharge of blood, serum and probably pus, after which the tissues will heal, usually with the formation of a cicatricial fibrous or cartilaginous tissue, which distorts the contour of the ear to a greater or less extent.

A corresponding result is usually reached if the contents of the hæmatoma are not discharged. In such a case, effusion gives place, after a time, to absorption, and finally the connective tissue binds the skin tightly to the cartilage,—often with distorting firmness. Familiar examples of these results are presented in some of the illustrations accompanying this article.

So conspicuous and so disagreeable a symptom as this has

naturally called for active therapeutic interference. Various plans of treatment have been resorted to. One classical measure has been to blister the ear. A more irrational proceeding than this, theoretically, it would be hard to conceive; practically, its results fully justify the expectations which might reasonably be based on it. Most persons of experience have reached the conclusion, which might have been arrived at *a priori*, that non-interference is preferable to this treatment.

More recently, some physicians have advocated opening the hæmatoma and dressing surgically. In view of the fact that the tumefaction is sure to subside spontaneously if uninjured this treatment is about as rational as visication. Its results are equally flattering.

Other measures have been suggested, but so little good have they seemed to accomplish that very many asylum physicians have reached the conclusion that non-interference is always the best policy with hæmatoma. In this opinion, so far as it relates to the fully formed hæmatoma, I fully concur. I have seen no good result from treatment of a completely developed hæmatoma. In my opinion it may best be allowed to subside as it will, protecting it as far as may be from danger of rupture. It may leave great deformity or little; it is almost certain to leave some. If rupture and discharge of contents do occur, it is then but rational to treat the wound by ordinary modern aseptic methods.

So much for fully formed hæmatoma. But the purpose of the present paper is to contend that hæmatoma should almost never be allowed to become fully developed. I say almost because exceptionally a hæmatoma will spring up, as it were, in a single night and be beyond control before it is discovered. But in the great majority of cases, the development is much more slow. It appears first as a redness and tumefaction of the ear, unequivocal in its promise. If at this stage a rational system of therapeutics is acted upon, the hæmatoma may almost certainly be aborted, and any deformity prevented.

And what is this "rational system?" In theory it is simplicity itself. A circumscribed area of tissue is swelling because of the effusion beneath its surface of serum and blood. The effusion is due to pressure from within,—blood presure and the pressure of osmosis. Counteract and overbalance this pressure by a stronger pressure from without and the effusion must at once

cease; absorption must take its place if the outside pressure continues; the tumor instead of increasing must subside.

Theory would perhaps carry us no further than this positively. But one might at least hope that after a time the tendency to effusion would disappear, and constructive tissue formation take its place. Stimulated by this hope, and reasoning along these lines, I looked about when first I saw a case of hæmatoma for a means of putting into effect this seemingly rational plan of treatment. I at once recalled two experiences that plainly pointed in the right direction. One of these observations was the cure of a nævus by the continued application of collodion for several months after all other means had failed; the other, the rapid cure of a small aneurism of the facial artery by the same means. Appaerntly here was an ideal means of applying pressure. In practice I found it all that theory suggested. By applying repeated coatings of collodion, I was enabled to so contract the hæmatomatous ear that it assumed sub-normal dimensions. After ten days or two weeks of such treafment, the collodion could be allowed to peel off, and fulfilling my expectations, it would be found that the tendency to hæmatoma no longer existed. Nor have I ever known it to recur in an ear so treated.

From that day till this, I have never willingly treated a hæmatoma in any other way. I speak cautiously when I say that the results of this treatment have proved in the highest degree satisfactory. For four years I did not have a single failure. Case after case, in three different asylums, I treated so successfully that in most instances it was difficult or impossible to detect the difference between the hæmatomatous ear and its fellow. Then there came a series of failures in my experience, five of them in all, which I could not account for, until I tested the collodion used and found that for some reason it had lost its power of contracting. Good collodion being substituted, good results were again attained.

So uniform have been the results of this treatuent that I have come to look upon hæmatoma as a preventable condition, and to regard a deformed ear as a reproach to the physician under whose care it is acquired. I am thus sanguine about this treatment, yet I freely confess that I do not expect to see it equally successful in other hands. It seems to be the nature of new therapeutic

measures to appear to succeed in the hands of their originator and to fail signally in the hands of others. This method is so simple and so altogether rational that I would expect more for it were it not for my experience as a propagandist. For five years I have gone on demonstrating as often as a hæmatoma came into my experience (with the exceptions referred to above) the results of this treatment. I have never published the method, it is true, but I have detailed it to most of the asylum physicians with whom I have come in contact in that time. Yet I am not aware that a single one has accepted it, and so far as I know there are just as many deformed ears developing in asylums now as there were five years ago. My present object is to bring this treatment to the attention of alienists generally, in the hope that all who have not gotten satisfactory results with other plans of treatment will give this one a trial.

I append a few rules suggested by my experience:

1. Use contractile collodion of the best quality.

2. Apply the collodion usually on the inner surface of the ear only. Exceptionally it may be necessary to apply to the outer surface also, but this should be done cautiously, as there is some danger of producing sloughing from over pressure.

3. Apply at intervals of fifteen minutes till a coating of sufficient thickness to markedly contract the ear has been applied. Re-apply as often as the coating tends to peel off,—three or four times a day if necessary

4. If the patient picks at the coating, restrain him with a camisole. This is only exceptionally necessary, but in rare instances it is absolutely essential. Those who adjure mechanical restraint must choose in these exceptional cases between two weeks' violation of their prejudices and a life-time of deformity for the patient.

I will esteem it a favor if any one who, after giving the above method a trial, fails to gain good results will write me details of his experience. I desire, if for no other reason, to know to what extent my confidence is founded on prejudice, or on exceptionally favorable cases.

I fear there may be those who will feel that I regard this topic altogether too seriously. What matters it, I hear some one ask, whether there is deformity or not in a chronic insane patient who will in all probability spend his life in an asylum? I reply, it

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NOTE. The lower right hand figure represents a fully [illegible] ordinary dimensions. The other figures show various sequelæ of hemiatrophy. The ear shown in the lower central figure was treated with collodion. The left ear of the same patient is shown in the lower right hand figure. It was treated by excision. The right hand upper figure represents an idiot among which class hemiatrophy is more common; the others, insane patients. In drawing the faces of two of the latter, I have, in deference to the feelings of friends, changed the expression but the outlines are accurately drawn, and may perhaps prove of interest to readers who are not familiar with the insane.

H. S. W.

is true the topic is not of salient importance. But occasionally a patient who has had hæmatoma does become able to go into the world; and, even at worst, in the back wards of an asylum, a deformed ear is not an especially pleasant decoration. Finally if it be decided that careful treatment of hæmatoma is not worth the while, may we not as well at once admit that all treatment of chronic insanities is useless? Certainly no conscientious physician will contend for that proposition.

One other word. I have spoken as if this treatment were exclusively my own. Now it certainly was original with me; but this is far from asserting that it first originated with me. It would be strange if so simple a plan had not been hit upon by others, and I shall expect to hear that such is the case. But it at least is true that I have never seen written reference to this treatment; nor have I been able to find any one who had heard of it or tried it except through my suggestion.

ECONOMY IN HOSPITAL BUILDING.

BY BENJAMIN BLACKFORD, M. D.,
Superintendent of Western Lunatic Asylum, Staunton, Va.

I have been requested to make a statement exhibiting the action taken by the board of directors of the Western Lunatic Asylum at Staunton, Va., when called upon to determine upon a policy of extension.

Previous to 1877, when the principal extensions commenced, the buildings presented already in part isolated structures, and it was thought best to so increase the asylum, and as before, to construct solidly built brick separated buildings that should have all the recognized advantages for the care and comfort of the patients.

Several such buildings were put up, extending over a period of thirteen years, and yet falling short of the demand for room, when it became apparent that accommodations for about one hundred patients of each sex would be necessary by the time that the buildings to contain them could be built and finished, with the small appropriations which were possible. The male patients were first provided for. To meet the restrictions of the appropriation it was determined to use the most economical form of building, one that would contain, beside the other necessary spaces, six dormitories of 16 beds, 96 in all, following the suggestion of the French asylums, as at Ville Evrard, the more acceptable as the new building was exclusively for the use of such male patients as had the largest liberty allowed by the rules of the institution.

The house, or pavilion, has four stories, the one on the first floor being appropriated to day uses, as dining room, sitting room and stores. There are also many large spaces on landings, made large for the purpose, where comfortable sittings are provided for the inmates of each story. There are stairways at each end of the house, and the usual closets, lavatories and attendants' rooms are to be found, leaving a large loft for future storage purposes over the fourth story.

The building is warmed by steam and has excellent winter

ventilation by brick shafts, finished at the top with galvanized iron caps, called Thomas caps, which have been found to give better results than any other except the moving cowls, so apt to get out of order.

The building is oblong, with projections, at its widest 44 feet 2 inches, at the longest 97 feet 6 inches. To comprehend the availabilities of this building and to recognize the solidity of its construction, it is necessary to inspect it.

It contains about 400,000 bricks, kiln count, measuring over 500,000 by the usual brick-layers' measure. The lumber used is yellow pine, and all the dormitories and small rooms are plastered. The stairs and day rooms are lime washed on the brick walls, laid smooth for that purpose.

Part of the brick making and of the carpenter's work was done by the regular organized labor of the asylum, the value of the same being computed and included in the cost of the building, which is about $11,000. The foundations were dug by patients, who also did the hauling and handling of the bricks.

The second building, intended for female patients, could not be designed on the plan adopted for the males, with a proper consideration for the habits and notions of female patients. It is built on the usual American plan, including many single rooms, and most of the associated dormitories holding only four beds, the largest only eight. It has also a feature entirely missing in the male building, corridors on each story 100 feet long by 13 feet wide; all glass at each end. It resembles the male building in having four stories and a loft, the first story being appropriated to day uses, including a dining room for 100 persons, parlors, sewing-rooms and store-rooms.

It is ventilated in the same way as the male building, and like it is heated by steam from the main boiler house; but unlike it, there are two open fire-places on each corridor, and several more in the first story sitting rooms. The class of patients expected for this building ought to be able to enjoy the great comfort of open fires, when protected as in many other institutions, an example of which may be found at Toledo, Ohio.

The construction of this pavilion is similar to that of the other one. It is built of brick, inside and out, and contains 680,000 brick by kiln count, the two buildings requiring the making of one and a quarter million brick, at a cost of about

$4.00 per thousand. The lumber is yellow pine, and all the windows of this building have transom-sash hinged on the under side at the top, and supplied with transom lifts. The foundations in both buildings are thick brick walls, with ample footings, laid in cement. The stories are, at least, 12 feet through. All the windows have double hung boxed frames, and except in one story of the male building, strong wire guards. The stairways are of wood, and so built as to allow within each building a good elevator when desired.

The food is supplied from the general kitchen, but all other service is provided in each house.

The original buildings, erected in 1828, are of brick, in colonial style, and all the new buildings have been made to accord with the first, with little attempt at ornament, except in efficient massing of parts. We do not apologize for the absence of costly ornament, and the use of home made brick instead of cut stone. However permissible such display may be in her more fortunate sister states, in Virginia, impoverished by war, and oppressed by public debt, expenditures of that kind would be hardly less than criminal.

Commencing to extend in 1877, when we had about 350 beds, we will at the end of the year 1892, have accommodations for 820 at least, showing an increase of 470 beds, which will have been accomplished at an outlay of $95,400.00, or about $203.00 per capita. These buildings all depend upon the administration building for food supplies, three out of five for steam, and in none of them is the cost of land or other accessories charged. The cost per capita is that of the wards alone.

We seldom have an opportunity of comparing our outlay for wards with that in other institutions, but we find in the last year's report of the State Hospital at Buffalo, N. Y., that one ward for 150 patients has just been completed at a cost of $199,776.70, and that an appropriation of $200,000 is asked for a similar ward, making the per capita cost $1,333.00. It is possible that the two wards here referred to may be fire-proof, and in that single respect be better than ours. The last of our buildings being now completed to contain 100 patients, will cost a little less than $16,000.00. It could have been built on the same lines, but with entirely fire-proof floors, roof, and stairs, for $46,000.00, or about $435.00 per capita, and then neither building would have any point of practical advantage over the other.

In this connection, I cannot help fortifying our claim to economical and judicious expenditure by quoting from the report of the State Board of Charities of New York, which says: "The Board cannot conclude this subject of the insane without again protesting in opposition to the erection by the State of great buildings for the concentration of the insane, adapted more for ornament and impressiveness than for the purpose claimed—that of improving the condition of or the better accommodation and care of those deprived of their reason."

Buildings of this class, like many of those now in use, and the one now in process of erection, as a new additional State institution for occupants, at an expense which bids fair, when finally completed and furnished, to cost somewhere near $2,500, for each occupant, for shelter alone, is an extravagant misuse of funds obtained from the State for "charitable purposes." The ame report says that the average individual throughout the State is lodged in private houses at a cost of $400.00.

I must here claim that while we, at Staunton in Virginia, exercise all of our best judgment to give to the inmates of our institution the full share of comfort attainable in buildings and grounds of the most costly character, but with a reasonable outlay, we use no parsimony in supplying their daily wants. Besides the proceeds of a large farm, which the patients help to work, we expend on support account, for the 602 patients present, the sum of $94,633.09, which would give a cost of maintenance for the patients about the average of such expense in other institutions of the best kind in the country.

In conclusion, it is proper for me to say that much credit is due to Mr. J. Crawford Neilson, of Baltimore, an eminent and experienced architect in building hospitals, for his excellent plans and drawings, and for his careful supervision of the work from time to time, while in the process of construction.

ABSTRACTS AND EXTRACTS.

ASSOCIATION OF TABES WITH DIABETES MELLITUS.—Guinon and Souques report the results of observations on this subject, made, in great part, in Charcot's clinic. They find that diabetes is often found in neuropathic families, in which members have suffered from tabes as well as other nervous diseases, such as epilepsy, paralysis agitans and insanity; that sufferers from tabes may have glycosuria, due to the involvement of the floor of the fourth ventricle in the morbid process; that diabetics may present some of the symptoms of tabes, such as loss of knee-jerk and lightning pains; and, finally, that the two diseases may co-exist, independently, in the same person. The diagnosis of these various conditions is not always easy. In the glycosuria of locomotor ataxia there are likely to be other symptoms pointing to lesion of the floor of the fourth ventricle; in pseudo-tabes of diabetes there is no true ataxia, the eye-symptoms are wanting, and the symptoms improve with the disappearance of the sugar from the urine. When the two diseases are associated in the same person, each presents its characteristic symptoms, and they pursue their course independently. Histories are given of five cases of this last combination.—*Ibid., November, 1891; March, 1892.* W. L. W.

PRECOCIOUS GENERAL PARALYSIS.—Case reported by Charcot and Dutil. The patient was a boy of somewhat neuropathic hereditary antecedents, both paternal grandparents having suffered from paralytic troubles, a cousin having been insane, and his father formerly intemperate. No evidence of syphilis in the patient or his parents. The boy, during childhood, was healthy, active in mind and body, and one of the best scholars in his class in school. At the age of fourteen he was put to work in the shop of a dealer in neckwear. He did well at first, but after a month his employer found that his intelligence was failing; that he required to be told everything that he had to do, wrote very badly, and could not make artithmetical calculations. His father noticed, about the same time, that he seemed changed; was taciturn and silly; stamered at times; when he was wearied his hands trembled. He was brought to the clinic about two years after the first symptoms were observed, having grown rapidly worse during the last few months. For about two months he had wet his bed.

At the time of admission he appeard backward in physical development for his age, and, although in his seventeenth year, the evidences of puberty were but slightly apparent. His expression was dull, his walk clumsy, and all his movements awkward. His mind was much enfeebled; he seemed apathetic and indifferent. Memory poor. No evidence of delusions.

Physically, he presented a fibrillar tremor of the tongue and lips, extending at times to other facial muscles; imperfect articulation, most marked when he was wearied, and in the pronunciation of the lingual consonants, tremor of the hands; clumsiness of handwriting, with a tendency to omit and misplace letters and words; inequality of the pupils; attacks of formication, beginning

in the right foot, ascending and involving the whole right side, and attacks of headache. There was general muscular weakness, but no localized paralysis. Knee-jerks exaggerated.

The authors consider the diagnosis unquestionable. They call attention to the arrest of physical development since the appearance of the disease, to the attacks of formication ("sensory epilepsy,") and to the absence of syphilis. The neuropathic heredity and the intemperance of the father are the only etiological factors that they can discover.

A review of the scanty literature of the subject shows that the few cases of precocious general paralysis thus far reported have mostly developed about the age of puberty; physical development has been retarded; the mental condition has been principally characterized by dementia, while the physical symptoms of the disease have develcped in a characteristic manner. Neuropathic heredity seems to play a larger part than any other etiological factor.—*Arch. de Neurol., March, 1892.* W. L. W.

Hysterical Anæsthesia.—Professor Janet, in a lecture before Charcot's clinic, called attention to some of the peculiarities of hysterical anæsthesia as compared with that resulting from organic disease. Hysterical patients are often not aware of their abnormalities of sensation, even when an entire half of the body is anæsthetic. They are not inconvenienced by them as is the case in organic lesions; in anæsthesia of the skin, they do not burn themselves as do the subjects of syringomyelia; in hysterical amblyopia, with extreme contraction of the visual field, they find their way about without difficulty. There is evidence of various sorts that in many such cases there is a certain sort of consciousness of the sensation. Thus the lecturer undertook the duty, at one time, of faradizing the muscles of the lower extremities in a case of hysterical hemiplegia accompanied with anæsthesia. He discovered after a time that the connections were broken, so that no current passed, but the muscles contracted at the touch of the electrodes in the same way as under the faradic stimulus. In like manner, a patient with extreme contraction of the field of vision, who had violent hysterical attacks at the sight of fire, could have them excited by bringing a lighted match barely within the boundaries of the normal field of vision. A girl, with cutaneous hemianæsthesia so complete that she professed and appeared to be entirely insensible to the piercing of a fold of skin by a pin, was blindfolded and asked to say "yes" whenever she felt a touch, and "no" whenever she failed to feel it. In compliance she said "yes" to every contact with the sensitives, and "no" when the insensitive side was touched, never responding except to contact. These and other similar facts pointed to a very different state of affairs from actual insensibility.

The author rejected the theory of stimulation, in view of the want of motive, the unconsciousness, in many cases, of the subjects of these abnormalities until they were brought out by a medical examination, and the uniformity of the phenomena in all times and countries, among persons who could not have been posted as to what was expected of them. He called attention to the fact that in the normal condition we are only conscious, at a

given time, of a small part of the impressions that are made on our organs of sense, and that concentrated attention to some sensations may make us insensible of others, even when they are pretty strong. He advanced the hypothesis that in hysterical anæsthesia the suppressed sensations are of a similar subconscious character.—*Ibid.* W. L. W.

SEXUAL PERVERSION.—Magnan, in a lecture on hereditary degeneracy, gives an account of a case of a man, twenty-one years of age, who was arrested in a public place, in the act of cutting a large piece of skin from his arm with scissors. Inquiry elicited the following facts:

The patient's grandfather was a drunkard. His father was epileptic, and died of apoplexy. A sister showed evidence of an ill-balanced mind; led an irregular life, and later, changed suddenly and entered a convent. The patient was mischievous and unmanageable as a child; wet the bed till he was seventeen years old; manifested a violent temper, and was repeatedly arrested for vagabondage. He became addicted to masturbation at an early age, and subsequently to pederasty. At about fifteen years of age he began to prick himself with a pin or other sharp instrument during masturbation; the pain intensified the sexual excitement.

From about six years of age the sight of a delicate skin provoked erotic excitement accompanied by a desire to bite out and chew a piece of the skin. This feeling was at first excited by either sex, but later was only experienced in relation to young girls. The sight of a pretty young girl with a delicate skin excited erection, but this was not accompanied by normal sexual desire, but by an overpowering and distressing impulse to bite. He had never yielded to this impulse, and had found relief in cutting out and chewing pieces of his own skin. It was on one of these occasions that he was arrested. The chewing of the skin was accompanied by emission of semen. When he resisted the impulse, he had a sensation of contraction in the epigastric region, became enervated, and if the struggle was prolonged, was bathed in perspiration. The self-mutilation brought a feeling of relief. The patient had five fresh wounds, eight in various stages of healing, and a number of scars. He presented none of the physical stigmata of degeneracy.—*Ibid., May, 1892.*

W. L. W.

EPILEPTIC ALBUMINURIA.—Voison and Perron published the results of investigations into this subject, conducted at la Salpêtrière. They collected the urine immediately after the paroxysm, and, as nearly as practicable, once an hour for four hours subsequently. It was tested by boiling after acidulation with acetic acid. In *grand mal* albumen was found in fifty per cent of cases examined (twenty out of forty). In five cases it was abundant; in nine moderate in amount, and in six only traces were found. It was usually present, if at all, in the first urine passed, and was, as a rule, found uniformly in the same cases. In *petit mal*, they were not satisfied as to the accuracy of the observations, and do not give figures. In cases in which the attacks occurred in series, albumen was found in five out of eight. It was not present in so large quantity in any of these as in some cases after a single attack. In

the status epilepticus it was found in every case in which the urine was examined. They point out the possibility of errors in diagnosis between epilepsy and Bright's disease in such cases, if the previous history of the patient is unknown. The amount of albumen, in cases in which it is found, seems to bear some relation to the degree of vaso-motor disturbance as indicated by congestion of the face.—*Ibid.* W. L. W.

Relations Between Chorea and Epilepsy.—G. R. Trowbridge furnishes brief accounts of 15 cases in which the patients suffered from both these diseases. Two came under his own observation in the Danville, Pa., Hospital for the Insane; the remainder were communicated by medical officers of other similar institutions. He concludes that there is an intimate relation between the two diseases, both being due to disturbance of the motor and intellectual centres of the brain, differing only in the degree of intensity.—*Alienist and Neurologist, January, 1892.* W. L. W.

Astasia-Abasia.—Knapp gives an abstract of the reported cases of this condition, with a personal observation, presenting some of the symptoms observed in previously reported cases, with others which gave rise to suspicion of paralysis agitans. His patient was a marble-worker, 58 years old, without neuropathic family antecedents, and of good previous health. His principal difficulty was spasm of the legs on attempting to walk. The steps became shorter and shorter, more and more rapid; there were rapid flexions and extensions of the limbs; the feet seemed to cling to the floor; the movement suggesting the action of a locomotive on a slippery track, until finally the spasm became almost tonic, and the patient came to a standstill. At this point he presented a tendency to fall forwards, but then often recovered himself, and could go on with a natural gait. Excitement increased the trouble. Some relief was obtained by practicing the "balance step" of military drill. There was some tendency to propulsion and retropulsion, such as is observed in paralysis agitans, increasing since the patient came under observation, and the facial expression and attitude were somewhat suggestive of that disease. On attempting to write, analogous spasmodic movements of the hands made their appearance. Apart from the spasm the patient felt entirely well. The author inclines to think that the case will develop into one of paralysis agitans.—*Jour. of Nerv. and Ment. Dis., November, 1891.* W. L. W.

Accidents from the Electric Current.—The same author gives histories of several cases of injury from electric currents of high potential. He summarizes his conclusions as follows:

"1. Currents of high potential may produce no permanent effects upon the human organism, or they may cause severe burns without other effects, or they may give rise to nervous symptoms of various kinds, similar to those seen after other injuries—the so-called 'traumatic neuroses.'

"2. Currents of high potential may prove fatal immediately, or they may give rise to burns which later may cause death.

"3. The limit of safety from death or injury from currents of high potential has not yet been determined, and is probably variable.

"4. The alternating current is probably more dangerous than a continuous current of equal electro-motive force."—*Boston Med. and Surg. Jour., April 17 and 24, 1892.* W. L. W.

Asymmetrical Conditions in the Faces of the Insane.—Dr. John Turner, of the Essex Lunatic Asylum, contributes an article on this subject to the *Journal of Mental Science*, (January and April, 1892,) illustrated by six photographs and a diagram. He considers a lack of balance in the bilaterally associated movements of the face evidence of paralysis in the centres or paths concerned in its production.

In 411 insane women, mostly recent cases, he found inequality of the pupils in 110, the right being the larger in 58. In another series of 396 cases, mostly chronic, the pupils were unequal in 140, the right being the larger in 82. General paretics were excluded from both these series. In 62 male general paretics, the pupils were unequal in 24, and in 39 cases of the same disease in women in 23.

In 306 recent female cases, the tongue, when protruded, deviated from the median line in 80.

In the same series, unilateral action of the occipito-frontalis was noted in 75 cases. There was entire loss of contraction of one side with certain expressions in 42, contraction was wanting in the outer half alone in 24, and in the inner half alone in 9. In some of these cases the power of voluntary contraction of the muscle was retained.

Dr. Turner takes the ground that the muscles of the upper part of the face are specially concerned in intellectual expression, and those of the lower part in the expression of the more animal feelings. The article contains a number of interesting observations. W. L. W.

The Diagnosis of General Paralysis.—G. R. Wilson, after passing in review the various etiological factors usually assigned to account for the outbreak of this disease, finds them all inadequate, on account of the frequency with which they are all present without its occurrence. He concludes that, in addition to them all, we must assume a constitutional proclivity in those in whom they prove effectual. He believes that there is a fairly uniform and characteristic type of character revealed in the life-histories of those who become the subjects of the disease. Physically, although not usually, men of conspicuously athletic constitution, they are, as a rule, vigorous, full-blooded, well-favored men, capable in situations requiring good nerve, quick reaction-time, and great powers of endurance under heavy strains. Intellectually, they are usually above the average in general intelligence, with a mind for practical affairs rather than of a philosophical or speculative bent. In temper, they are apt to be passionate, of good spirits, and disposed to self-confidence. They are not men of religious interests or high moral ambition. Although often generous, good-natured and companionable, they are egoistic, with a relentless desire for the good things of this life, and incapable of any

constant self-sacrifice. They are almost invariably persons of unusual strong sexual proclivities. To this, rather than to any direct etiological significance, the author is apparently disposed to attribute the frequency of syphilis among them.

Several cases are instanced in which two members of the same family, in one case twin brothers, have been subjects of the disease.—*Ibid., January, 1892.* W. L. W.

The Relation Between General Paralysis and Syphilis.—Jacobson, of Copenhagen, gives a brief resumé of the literature of this subject, together with statistics of cases of general paralysis in women treated during the last 27 years in the St. Hans Asylum. Of 116 cases, in 16 it was impossible to obtain any antecedent history. Of the remaining 100, syphilis was admitted in 37 cases, and most probable in 13 others. Of the remainder, a considerable number had been prostitutes and women of immoral lives, making it likely that a considerably larger proportion than that in which any positive evidence of antecedent syphilis could be obtained had really been infected. He estimates that probably not less than 65 per cent of the subjects of his statistics had been syphilitic.

No other assignable cause was found with anything like the same frequency. Alcoholism was found in 27 cases, of whom 11 were certainly and 3 probably syphilitic. Out of 43 cases in which a family history was obtained, heredity was found in 12. The author does not state whether the heredity was of general paresis or merely of any form of insanity or nervous disease. Other causes do not appear with noteworthy frequency.

Other reasons for believing in the importance of syphilis in this connection are the analogy of general paralysis with locomotor ataxia: its distribution with relation to nationality, and the numerical preponderance of males over females, and of women in large towns and the lowest grades of society among the latter.—*Ibid., April, Geim.* W. L. W.

Cocainism.—Connolly Norman, of Dublin, combats the notion that cocain can be safely used as a substitute for morphine in breaking off the habit of addiction to the latter drug. He finds that cocain is more seductive than morphine on account of the absence of unpleasant after-effects in the earlier stages of its use, and that its toxic effects are much more rapid and pernicious. In three cases that had been under his treatment, prominent symptoms were hallucinations of sight and hearing of a distressing character, abnormal sexual excitement, loss of memory, and of the sense of the lapse of time.—*Ibid.* W. L. W.

Pseudo-Tabes.—James Hendrie Lloyd discusses the differential diagnosis between tabes and cases of multiple neuritis due to alcohol, lead, diphtheria, etc., in which sensory symptoms predominate. The cases are not always easy to distinguish. The history of the cases, with certain concomitant phenomena, as the blue line on the gums in lead-poisoning, tachycardia in

alcoholic cases, paralysis of accommodation in diphtheritic cases, and the characteristic affections of the eyes and bladder in locomotor ataxia, will usually suffice. He gives short histories of several illustrative cases.

[Dr. Lloyd says nothing of the important distinction between true ataxia and loss of "muscular sense." Without denying the possibility of the former condition in neuritis, it is certainly often the case that patients who cannot stand nor direct their movements with the eyes closed can control their muscles perfectly well when they can see the movements they make.]—*Medical News, April 2, 1892.* W. L. W.

Tumor of Mid-Brain and Left Optic Thalamus.—The same author gives the history of an Italian, aged twenty-eight, who suffered from paralysis of the right side, complete in the upper, incomplete in the lower extremity, with paralysis of the left third nerve. No other cranial motor nerve was involved. There was no apparent anæsthesia; the condition of sensibility as to heat and pain and of the special senses could not be satisfactorily tested on account of the patient's mental hebetude. Irritation of the skin of the right leg caused reflex movements in the left leg. The same was true of irritation over either eye. The temperature was subnormal for twenty days, most of the time, but rose during the last three days of life; just before death it reached 106.1. The lowest point observed was 95.4. Diagnosis of tumor of left cerebral peduncle was made at the first examination. At the autopsy a tumor was found, involving the left cerebral peduncle, mid-brain and posterior part of optic thalamus. Microscopical examination showed it to be a glioma.—*Ibid., January 30, 1890.* W. L. W.

Pachymeningitis Interna Hæmorrhagica.—Dr. Frank C. Hoyt, pathologist to the St. Joseph, Mo., Asylum, gives the history and pathological findings in a case of this condition, occurring in a subject of terminal dementia after melancholia. Clinically, the case was characterized by recurring attacks of headache, accompanied by nausea, and, in the last attack, gradually increasing coma. At the autopsy, about four ounces of partly coagulated blood were found under the dura mater covering the right hemisphere, and the dura was lined, over a great part of its extent, with a neomembrane of reddish brown color. Microscopical examination of sections of the membrane led the author to the conclusion that the original lesion was hemorrhagic, not inflammatory. The article is illustrated, and contains a synopsis of the literature of the subject.—*Medical Record, April 30, 1892.* W. L. W.

Trephining in a Case of Porencephalon.—Willard and Lloyd report a case of bilateral spastic hemiplegia, of cerebral origin, with athetoid movements of the right arm and severe convulsions, in which trephining was done by Dr. Willard. The opening was made in the left Rolandic region, one and a half inch to the left of the median line. When the dura was opened,

several ounces of cerebro-spinal fluid escaped, and the exploring finger entered a large cavity. The wound was closed and healed throughout by first intention, but the temperature was high from the start, and on the fourth day the eruption of scarlet fever appeared. Subsequently, the cicatrix gave way at one point, from intra-cranial pressure, and there was some oozing of fluid, but the wound remained entirely asceptic. Diarrhœa set in, and the patient gradually sank, and died on the nineteenth day after the operation, death being attributed to scarlet fever.

The autopsy revealed an immense porencephalon, coinciding in area very closely with the distribution of the middle cerebral artery, and opening in its central portion into the lateral ventricle. Dr. Lloyd believes the condition to be due to vascular lesion.—*American Journal of Medical Science, April, Geim.*

W. L. W.

Ocular Changes in Imbecility, Epilepsy and General Paresis.—Dr. Charles A. Oliver, of the Wills Eye Hospital, Philadelphia, reports the results of examination of patients in the Norristown, Pa., Hospital for the Insane.

In idiopathic epilepsy, the characteristic functional changes were slightly subnormal color sense and regular reduction of visual fields for both form and color. Ophthalmoscopically, there was evidence of a low grade of chronic retinitis, shown by thickening of the fibre-layer of the retina, dilated and tortuous condition of retinal vessels, dilation of retinal lymph channels, and granular condition of choroid in macular region.

In imbecility, vision was generally normal, so far as could be determined, and the opthalmoscopic appearances approximated the infantile condition.

In general paresis, acuteness of vision, color sense and visual field were all reduced, so far as could be determined. The optic nerve and retina showed atrophic and degenerative changes.—*Journal of American Medical Association, September 26, 1891.*

W. L. W.

Peculiarities of the Knee-Jerk in Sleep.—Report of investigations carried on in the laboratory of the McLean Asylum, by William Noyes, M. D., Pathologist. The experiments were made on a demented patient, with a strong tendency to go to sleep in any position in which he may be placed. The blows were given with a Lombard hammer, at regular intervals of five seconds, and the reactions registered by a suitable recording apparatus. As has been noticed by other observers, there was a tendency for the knee-jerk to disappear during sleep. Under such circumstances, auditory stimuli, not sufficient to awaken the subject, would cause it to reappear for a variable period. Thus, in one case, after the knee-jerk had been absent for a minute and three-quarters, two light taps with the handle of a needle used for recording elicited a series of seventy-two kicks, of varying intensity then, after an intermission of five taps, another series of sixteen kicks followed, after total disappearance, by another series of twenty-eight. The effect seemed to diminish with repetitions of the stimulus.

Both during the sleeping and waking conditions, but especially in the for-

mer, there was found a tendency to a quasi-rhythmical variation in the extent of the jerk. On taking simultaneous tracings with a plethysmograph, there appeared to be a general correspondence, the knee-jerks being most extensive when the Traube-Hering curve was lowest.—*American Journal of Psychology, April, 1892.* W. L. W.

INTERMITTENT HYSTERICAL (?) PARALYSIS.—Case reported by Dr. L. Bremer. A boy sixteen years old, of good health and antecedents, was attacked, without apparent cause, with weakness of the left leg, which developed, by the next morning, into complete motor and sensory paralysis. Sensation and motion returned, to a great extent, the same afternoon, and in a few days recovery was complete. A few weeks later, he had several similar attacks, of varying duration, also several spasmodic seizures, thought to be hystero-epileptic in character. Finally, motion and sensation were entirely lost with the exception of the right eye. This condition soon passed away, leaving him paraplegic, in which state he was brought to Dr. Bremer. His lower extremities were in a state of flaccid paralysis and anæsthetic, the anæsthesia not following the course of the nerves. Knee-jerk normal; cremasteric reflex preserved. Field of vision contracted. Anti-hysteric treatment having been tried without success, it was proposed to try hypnotism, but before the time set for the experiment, of which the patient had been notified, sensation had returned completely, and motion to a considerable extent. This improvement was not permanent. Under faradic treatment, the knee-jerk and muscular contractions gradually diminished till both were completely lost. A series of spasmodic attacks occurred, following which, motion and sensation were again completely lost in the lower extremities. During these attacks the pulse fell to forty-two per minute, and respiration sometimes fell as low as four, and on one occasion, one per minute. Temperature was elevated, but he had tonsilitis at the time. Finally he was sent home, and a few weeks afterward both motion and sensation returned suddenly and completely. The patient had remained well for about four months, but the knee-jerk had not returned. Electrical excitability was not tested.—*Alienist and Neurologist, April, 1892.* W. L. W.

APHASIA FROM SUB-DURAL HEMORRHAGE, RELIEVED BY OPERATION.—Reported by Bremer and Carson. The patient, while intoxicated, hurt his head by a fall. He said nothing of it at the time, and seemed to be in his usual health the next day. Soon after, however, he began to complain of headache, and after an attack of unconsciousness on the street, was noticed to have difficulty in expressing himself. When seen by Dr. Bremer, thirteen days after he began to complain, there was marked aphasia and agraphia. He understood what was said to him, and could read intelligently. There was slight paralysis of the right side of the face, and sensation was somewhat impaired, in all its qualities, over the whole right side. Diagnosis was made of blood-clot pressing on the foot of the second and third frontal convolutions, and as the patient's condition was evidently growing worse, trephining was done by Dr. Carson. As there was no external evidence of injury, the opera-

tion was guided by the symptoms. A clot, with a considerable amount of fluid blood, was found and removed. With the exception of clonic spasms of right side of face and platysma myoides, on the following day, recovery was uneventful. Speech and power of writing were completely restored on the sixth day, and the patient was entirely well six months after the operation.—*Am. Jour. of Med. Sci., February, 1892.* W. L. W.

Section of the Cervical Sympathetic for Epilepsy.—Amongst the various surgical procedures which have been recommended for the treatment of epilepsy we must include division of the cervical sympathetic. Jaksch, of Neuenkirchen, Austria, claims to have caused the epilepsy to disappear in two cases in which he combined this operation with ligature of the vertebral artery. In these he considered the disorder to be caused by an irritation of the gastro-intestinal ramifications of this nerve; they were both rebellious to medical treatment, and in one the aura consisted in an intense constrictive pain in the epigastric region, accompanied occasionally with vomiting, and in the other the attacks were followed by an intestinal catarrh. The right sympathetic was divided above the lower cervical ganglion. The attacks ceased entirely and had not reappeared after the lapse of nearly a year. The cases were evidently, as is too often the fact, reported too early to assume the certainty of a cure, and the operation can hardly be recommended on the strength of them alone.

H. M. B.

Location and Origin of the Epileptic Attack.—Horsley, *British Med. Jour.*, April 2, 1892, (*abstr. in Rev. Gén. de Méd., No. 20,*) divides the epileptic convulsions into two classes:

(1.) Idiopathic or general epilepsy, (*grand mal, petit mal;*) infantile convulsions, reflex epilepsy, etc. (2.) Jacksonian epilepsy and hystero-epilepsy.

Whatever point is first involved it is necessary to assume that the principal seat of a general or idiopathic attack is the cerebral hemisphere and more particularly the cortical substance; that during the attack the cortex is in a state of congestion rather than anæmia; and finally, that it is this congested region of the brain that is the origin of the epileptic disorder. H. M. B.

Verbal Blindness.—Bianchi, *Annali di Neurologia*, IX, v and vi, 1891, reports in detail, four interesting cases of aphasic defect in which there was more or less inability to recognize or employ words with evidently considerable understanding of the idea. In one of the cases there was pronounced psychic blindness to a certain degree; the patient could not orient himself or recognize his surroundings even in the vicinity of his own house. In three of the patients there was right hemianopsia with the paresis—all had suffered from apoplectic or convulsive attacks.

The autopsy is reported of only one case, and in this there were found focal lesions in the external segment of the lenticula, and in the white substance at the part of the first frontal convolution of the right hemisphere, also an old

focal softening involving the gray matter of the posterior portion of the convolution of the corpus callosum and the inferior third of the quadrate lobe. In the left hemisphere there was found an old focus of softening involving the angular gyrus and penetrating into the white substance as far as to the posterior cornu of the lateral ventricle. There was in this case a considerable general impairment of the museular sense, but the tactile sensibility seems to have been only slightly affected.

In his discussion of these cases the author concludes that verbal blindness is only one of the symptoms of a variable symptomatic complex, and that the designation given it by Freund of "optic aphasi " is justifiable. It is not to be confounded with the incapacity to read or write which is so frequently met with in many more complicated forms of aphasia, especially with verbal deafness and with motor aphasia. From the study of these and other cases he holds that verbal amnesia is not to be considered as a special form of aphasia *per se* always to be referred to the same lesion, but is due to the suppression or functional defect of the anatomical substrata of the elements of language and especially of the neuropsychic sensorial factors of vision or hearing. According, as by exercise, by education or accident, the auditory or visual centers of the individual take the higher rank among the various factors producing organized speech, to that degree will their destruction cause verbal amnesia.

Amnesic aphasia, therefore, does not depend upon injury of one especial part of the brain like motor aphasia. H. M. B.

HYPER-AND HYPOTHERMIA IN HYSTERIA.—R. Vizioli, *Annali di Neurologia*, IX, v, vi, 1891, reports a case of a woman in whom, after an attack of toothache, due to decayed teeth, there appeared febrile symptoms, and the temperature ranged as high as 104° F., and aroused a suspicion of typhoid though corresponding objective symptoms were lacking. At the beginning of the third week there occurred an attack of lethargy lasting nine hours, and which was immediately followed by a rise of temperature to over 110° F. This was tested with a second thermometer with the same result. These attacks were repeated at variable intervals for some days, and always with the same result as regards temperature for over two months. The hyperpyrexia would last for a while and then be followed by a rapid fall to even below normal. On three occasions it fell as low as 34.5° C., (or 93.7° F.)

About the end of the fourth week a new symptom, amnesia, appeared and lasted seven days, and was accompanied with obstinate vomiting; even water was rejected by the stomach. After this the urine was scanty, and chemical analysis showed it to contain only a small proportion of solid constituents; its specific gravity was always low, and this was the case even after a long continuance of the extremely high temperature.

There was no marked wasting or serious loss of strength throughout the disorder and the nutrition did not suffer.

The cure was effected suddenly by an auto-suggestion of a religious nature, and was complete.

Vizioli, in conclusion, holds that hyperthermia or, as he calls it, hysteric

fever, represents the thermic equivalent of the hysteric conditions—the thermogenic form of the neurosis—as the hysteric delusion is its mental type, the convulsions its motor form, &c. To be compatible with life such high temperature must always be of hysteric nature. Its effect on tissue change is very slight, though it may retard it, which is apparently paradoxical when we consider that increase of body heat is usually considered due to accelerated tissue change. Finally, he calls attention to the value of urinary examination in all cases of febrile disturbance of doubtful nature, since we have, in the relative scarcity or abundance of its solid constituents an important element of diagnosis. This is also available in the distinction of the convulsions of epilepsy from those of hysteria, especially in cases of simulation. H. M. B.

THE TREATMENT OF EPILEPSY.—Huchard, *Revue Générale de Chémie et Thérap.*, No. 9, 1892, (abstract in *Gaz. Méd. de Paris*), recommends the use in epilepsy, where the bromides have failed, of the borate of soda. Notwithstanding the fact that this drug very frequently produces digestive troubles and other disorders, it has the advantage of not affecting the intelligence, like the bromides. It is necessary, in cases where it is given, to employ also a tonic medication and to combat the diarrhœa by salicylate of bismuth. He recommends that it be given in a dose of one-half to one grain, and gradually increased not exceeding ten grains per diem, and given preferably between meals. It seems to succeed best, speaking in a general way, in symptomatic epilepsy. H. M. B.

THE NATURE OF HYSTERIA.—Dr. Consot, (*Bul. de la Soc. de Méd. Ment. de Belg.*, March, 1892,) discusses the nature of hysteria. First noticing the false conceptions and etymology of the term, he calls attention to the relations of hysteria with heredity, neurasthenia, etc., proving that it depends upon a certain condition of the nerve centres, a predisposition, from which the nerve cell is more excitable, and the conduction along the nervous commissure more facile than in the normal condition. He adopts the view first enunciated by Briquet, and subsequently by Pitres, in which the hysteric attack is compared with an emotional shock, which is, as we know, not infrequently, the starting point of a confirmed hysteria. An excitation of this kind disseminates itself throughout the hypersensitive brain; a purely psychic impulse calls into action the sensory and motor centres as well, and may give rise to the general convulsions observed in hysteric attacks. The suggestibility of the hysteric brain is also a very important element.

H. M. B.

NUTRITION IN HYSTERIA AND IN EPILEPSY.—M. J. Voisin, *Soc. de Biologie*, (abstract in *Rev. Gén. de Méd., No. 20,*) communicated the results of one hundred analyses, forty of which were hysterical cases, and concludes that the formula of the inversion of phosphates is valueless for the diagnosis of hysteria:

(1.) Because this inversion is very rare;

(2.) Because it is also met with in epilepsy following the attack and in the interval;

(3.) Because this inversion also exists in healthy individuals after the injection of certain substances or the absorption of certain elements;

(4.) Finally because the method employed for the determination of the presence of the earthy and alkaline phosphates does not furnish all the guarantees of precision necessary for this examination. H. M. B.

THE RELATIONS OF GENERAL PARALYSIS TO TABES.—M. Raymond, *Soc. Méd. des Hopit*, April 8, (abstract in *Rev. Gén. de Méd.*, April 20,) brought up the question as to the relation between these two disorders. A certain number of facts have been published, proving their simultaneous co-existence, and M. Raymond holds that they are often associated; general paralysis may begin with symptoms of tabes, and that the latter may make its appearance in the course of general paralysis.

Considering the morbid phenomena together and their common etiology, he asked if they cannot be considered as expressions of the same disorder, attacking successively or simultaneously the brain, the spinal cord and the peripheral nerves. H. M. B.

SPERMINE.—In a communication to the Medical Society of St. Petersburg, February last, which is translated in the *Gaz. Méd. de Paris* of April 9th, the subject of the therapeutic applications of spermine was discussed. This had been studied by Professor Poehl, who had been able to thoroughly isolate it, and he claims that its identification with piperazine by Kobert is incorrect. According to Poehl its formula is $C.^{10}$ $H.^{16}$ $N.^{4}$ or ($C.^{5}$ $H.^{12}$ $N.^{2}$). Its reactions are those of the alkaloids in general, but he mentioned two that may serve to identify it: (1.) Adding to a solution of spermine a small quantity of the chloride of gold and a large pinch of metallic magnesium powder, it gives out the chartereristic order of fresh human sperm. (2.) The formation of the crystals of phosphate of spermine which are identical with the Charcot-Leyden crystals. These crystals have been found in the sperm, in asthmatic sputa, in the blood in leukæmia, and in the physiological secretions generally

He finds that spermine exists not only in the testicle, but in minute quantities generally throughout the system, and he holds that its loss is the cause of the weakness in certain disorders. It being a normal constituent of the system, its therapeutic employment is not perilous. A number of clinical cases are given in which it has been employed by Dr. Roschinine, and by Dr. Schiparef, and the following are the conclusions:

(1.) Hypodermic injections of Prof. Poehl's spermine, under all antiseptic precautions, cause no local reaction.

(2.) Suggestion has very little influence on the results obtained.

(3.) Spermine is a stimulant and tonic of the nervous system and possibly also of the other cells.

(4.) It increases muscular power in cases of debility due to various pathological conditions, and increases arterial pressure.

(5.) It has no special influence on the genital functions, but acts by ameliorating the general condition.

(6.) The patient feels the effects of the first injection, but the muscular power and arterial pressure are only affected after eight or ten injections.

(7.) Its good effects continue from two to three months.

(8.) Its employment in epilepsy requires very great caution.

(9.) The time has not yet come to state scientifically its indications and contra-indications in therapeutics, but in any case it is an agent that is worthy the attention of physicians.

Dr. Williaminoff had employed Poehl's spermine in surgical operations, and found that it seemed to be a valuable stimulant, enabling debilitated patients to better endure serious operations. He offers no conclusions, but called the attention of surgeons to the facts.

Dr. Victoroff, having experimented extensively both with Poehl's preparation and Brown-Séquard's emulsion, offered the following conclusions:

(1.) The action of spermine is identical with that of Brown-Séquard's emulsion; like that, it acts upon the motor part of the cerebro-spinal system, increasing the muscular power of the members and regulating the genital and urinary functions and the dejections; its subjective effect is improvement of the general sensibility.

(2.) It is necessary to suppose that spermine is the active principle in Brown-Séquard's emulsion.

(3.) It causes no local reaction. H. M. B.

Cerebral Anæmia and Hyperæmia in Their Relations with Epilepsy.—Gutnikow, *Pflüger's Archiv.*, (abstract in *Bull. de la Soc. de Méd. Ment., de Belg.*, March, 1892,) in order to answer the question, whether the epileptic attack is influenced by cerebral anæmia or not, instituted some experiments on Guinea pigs. It is well known that this animal often exhibits epileptic phenomena after excision of a portion of the sciatic nerve, and that the attacks can be excited from a so-called epileptogenic zone. Also from the experiments of Lalathé, in Marey's laboratory, it has been shown that the circulation of blood in the different organs is rapidly influenced by fastening the animal on a rotating table. According, as the head is directed towards the center or towards the circumference, the brain becomes either anæmic or hyperæmic.

Following these indications Gutnikow experimented as follows: He operated on forty-two animals, of whom two died, six had convulsions produced by excitations of the epileptogenic zone, fourteen had slight attacks without any special apparent cause, and twenty had no true convulsion, though they seemed to have a tendency towards them. These last animals were divided into two equal series, the first ten were rotated on the table in such a way as to produce mechanical anæmia of the brain, the others so as to produce a corresponding hyperæmia. This was repeated daily for one or two minutes at a time. The results seemed conclusive. In the animals of the first series (anæmia of the brain) epileptiform attacks made their appearance, at first from excitation of the epileptogenic zone, and afterward spontaneously, but finally the animals succumbed.

In the other series (hyperæmia of the brain) there was no symptom of epilepsy and the excitation of the epileptogenic zone caused no other symptoms than a cry, the same as in normal animals.

The author's experiments therefore confirm the statements of Kussmaul and Tanner, that cerebral anæmia predisposes to epileptic attacks, and that hyperæmia on the other hand does not. H. M. B.

Tabes Dorsalis and Paresis.—An interesting discussion on the identity of tabes and paresis occurred in the *Société Médicale des Hôpitaux* of Paris, in April last, which is reported rather fully in the French journals. It was started by the presentation of a case by M. Raymond, in the discussion of which he supported the view that these two disorders, hitherto considered as distinct, were really one species. He based this opinion on the clinical association so often observed of the two affections and the resemblance between their fundamental lesions—those that are the essential pathological characters of both.

The theory is not new, in fact, it has often been suggested in the discussions of the presumed common etiology of tabes and paresis, but it was strongly combatted by M. Ballet, who maintained that the clinical history of the two affections indicated their non-identity. One is a chronic progressive disorder requiring ten, fifteen or twenty years to run its course, while the other is rather sub-acute from the start, and lasts only seven or eight years, and hardly three in most cases. He also denied the frequency of the association of the two diseases; he quoted in this his own experience. He had, it is true, often observed tabetic symptoms in paretics, but not the reverse; very few ataxics he claimed became subjects of general paresis. He held, moreover, that the pathology was different in each; the lesions in tabes commence in the nerve fibre, while in paresis it is the blood-vessels that are primarily diseased. The terminations of the disorders are not the same; paresis is ultimately not a sclerosis, but a softening.

M. Jaffray, while in the main admitting the criticisms of M. Ballet, was not quite so positive as to the non-identity of the two affections. While it was admitted that in tabes, the nerve tubes and probably also the central cells of the cord were involved primarily, and that the lesions of the neuroglia and the vessels were secondary, opinions differed as to the processes and their order in paresis. He himself was inclined to the opinion that the fundamental lesion was in the nerve tubes and cells, but did not from this conclude the identity of the two. If we consider both as originating with a parenchymatous inflammation, there are yet marked clinical differences. In tabes it is the sensory nervous system that is first affected, while in paresis the motor, psychic and trophic functions may be involved, and the sensory only very slightly. He considered the association of the two diseases, that is sometime observed, as probably only a coincidence comparable to that which is sometimes observed between paresis and other spinal and cerebral disorders. Still he recognized some points of resemblance between them, and there were common etiological conditions. One might also be the cause of the development of the other.

M. Jaffray held that for both a special vulnerability of the nervous system was requisite, and he sought this generally in the heredity. Of the more direct exciting causes, syphilis was specially important, but the prior predisposition explained to some extent the inefficacy of specific treatment in these affections.

While M. Jaffray's views appear judiciously conservative, it seems that perhaps he lays too much stress on hereditary predisposition. A study of the statistics of paresis does not altogether favor the view that heredity is even as great a factor in its production as in many other forms of cerebral disease. While the question as to the identity of paresis and locomotor ataxia, is still undecided, there seem to be good grounds for at least the suspicion that they are essentially the same. The clinical facts are still wanting to thoroughly prove the hypothesis, and the histological data are still more at fault. The facts of their coincidence, which is more frequent, we believe, than was admitted by M. Ballet, and the probable common etiology of the two disorders, are very favorable to the theory of their identity. H. M. B.

The Etiology of Neurasthenia.—Dr. Joseph, in *Deutsch Méd. Zeitung*, 1892, p. 457, (abstract in *Rev. Gén. de Méd.*, No. 25,) mentions, as the causes of neurasthenia in the female, the losses from chronic endometritis and repeated genital excitations, such as are produced by long continued treatment of affections of the internal genital organs. In these conditions, it is the chronic form of neurasthenia which is observed. He also, however, observes an acute form more rare than the preceding, following profuse hemorrhages, and the nervous disorders in which were best treated by measures directed against the anæmia. H. M. B.

Psychosis in Infants.—M. Friedmann, *Muenchener Medicin. Wochenschr*, No. 21, 1892, (abstract in *Rev. Gén. de Méd.*, No. 24,) reports 115 cases of psychoses and nervous disorders in children, noticed by him during a period of three years. They analyze as follows:

Functional neuroses, 66 cases, (including 22 cases of chorea); organic and peripheral affections, 45; psychoses (excluding idiocy), 4.

This gives for the psychoses a proportion of three and a half to four per cent of the whole number of nervous affections, while in the adult, according to the author's opinion, this proportion is four or five times as great. From the whole of his observations he concludes that neurasthenia, in the proper sense of the word, which dominates the nervous pathology of the adult, is not met with in the child. On the other hand, in infancy spasmodic disorders of chorea and hysteria are met with, with special frequency; also transient or permanent cerebral irritation occurs in infants with a very marked symptomatic expression.

In the most of the generalized neuroses occuring in infants, hereditary predisposition plays a very important rôle. Erethism and psychic hyperæsthesia dominate the clinical features, while a condition of primary torpor without intellectual defect is lacking.

In the second place a tendency to convulsive and sensory motor paralytic manifestations is met with, which had been already noticed by Maudsley, and by him designated under the name of convulsibility.

As regards the irritative psychic manifestations, the author lays stress on the tendency of disorders of this nature to be only transitory, and on the infrequency of continuous or intermittent disorder of this nature. When they take on this last character, they indicate profound exhaustion.

H. M. B.

SULFONAL IN EPILEPSY.—Bannatyne, *British Medical Journal*, December, 1891, (abstract in *Jour. de Méd. de Paris*), reports the results of treatment of eight cases of epilepsy with sulfonal, in quantity of from nine to thirty-six grains taken in two doses in the evening. According to gravity of the case the medicine was given either every night or on alternate nights. During the administration the attacks either ceased altogether or were much diminished in intensity. The majority of his patients were old cases, in which other medication had failed, and he therefore considers sulfonal as a good succedaneum to the bromides. Its good effects are attributed by him to a diminution of the excitability of the cerebral cortex which it produces.

H. M. B.

CRIMINALITY AND DEGENERESCENCE.—Marandon de Montyel, in a memoir in the *Arch. de l'Anthropologie Criminelle*, May 15, 1892, combats at length the theories of the Italian School as to relations between criminality and degenerescence. He holds that criminality is a reversion, that degenerescence, on the other hand, is a result of over culture, an outgrowth of civilization that is unknown among savages and primitive peoples, and that the two, instead being allied conditions, are, on the contrary, opposed to each other. He supports this view by various arguments, both theoretical and clinical, and concludes as follows:

It appears to me that all the clinical facts brought, found in this memoir, bear severely against the doctrine of assimilation and prove; on the other hand, an antagonism between criminality and degenerescence. To whoever sees in crime a regressive manifestation the phenomenon is natural. Degenerescence, in fact, a waste product of civilization, does not exist among primitive populations, in whom insanity only rarely occurs and depends exclusively upon individual and accidental causes, traumatisms and infectious disorders attacking beings normally constituted. It is thus at the present time with savages as all travelers have affirmed. If criminality is a regression, if it proves to exist in the criminal a predominance of the acquisition of the past over those of the present, it is not at all astonishing in the fact that it does not accord well with degenerescence, which is opposed to this primitive organization. Thus in our civilization degenerescence and regression occur as amongst the horses of the Arabs, which are themselves results of civilization as compared with their ancestors, and which, according to the opinion of competent observers, are subject to degeneration or reversion.

They have their causes, which for the most part act singly, some producing criminality and others insanity; but sometimes by a concatenation of circumstances, they act together on the same individual, producing by their combination the insane criminal, but since the condition they tend to produce is antagonistic, the part taken by regression is the less, as that by degeneration is the greater. However it may be, from all these doctrinal discussions, one grand clinical fact remains. It is the one I wish to retain, and I shall be happy if I have succeeded in making it plain, since it is to me an incontestible truth, easily verified by any disinterested observer, and of the utmost importance. It is the one fact that I will affirm as the conclusion of this memoir, as follows: *In insanity criminality exists in an inverse ratio to the degree of degeneration.* H. M. B.

Cadaveric Rigidity after Poisoning.—Paltauf, in a communication to the Society of German Physicians, of Prague, *Arch. de l'Anthr. Crim.*, May 15, 1892, reported the results of experiments by himself on the action of certain poisons on the cadaveric rigidity. His experiments were made with agents that acted on the muscles either directly (curare) or through the intermediation of the nervous system (strychnia, pyrotoxine, camphor, salts of ammonia).

Strychnia always delays the appearance of rigidity, which, on the other hand, is hastened by the other substances of the second category.

In order to study the influence of the nervous system, the spinal cord and nerves were divided. It was found that rigidity appeared the sooner, as the muscles had been the more affixed by the poison and hence had to do most of the work.

In the majority of cases the reaction of the rigid muscles was acid, but in other cases, notable in poisoning by camphor and ethyl-theobromine, the reaction was alkaline in spite of a very marked cadaveric rigidity. If in animals thus poisoned, the cord was cut midway from the head to the tail, the muscles of the anterior limbs gave an alkaline reaction with the cadaveric rigidity, while those of the hinder part of the body did not become alkaline until putrefaction had begun. The same result followed section of the nerves.

As regards the so-called cataleptic rigidity which is attributed to a passage from the last muscular contraction directly into cadaveric rigidity, the experiments on animals demonstrated that this hypothesis is correct. If a rabbit is suddenly killed while under the influence of camphor intoxication, it is taken with convulsive contractions of the muscles, which at once pass into cadaveric rigidity. H. M. B.

Neologisms in Mental Medicine.—Dr. C. H. Lefèvre, *Annales de Psychiatrie et d'Hypn.*, May, 1892, (abstract in *Jour. de Méd. de Paris*, No. 21,) treats of the special modification of speech, consisting of the use of new words or neologisms, not infrequently observed in the insane. This has a certain value in mental medicine, and his study has enabled him to classify these terms into two catagories, namely, *passive* neologisms, resulting from

pure automatism, and *active* neologisms, which are willfully originated by the patients, and thus very markedly distinct from the other class. The following are the conclusions he deduces from his study of these phenomena:

Active neologisms are observed chiefly in systematized delusional cases, and with persecutory, religious, ambitious, erotic and hypochondriacal delusions.

Passive neologisms, on the other hand, are most frequently met with in the following forms of insanity: Mania, melancholia, dementia, progressive paresis, and in toxic and congenital insanities.

As regards the prognostic value of these symptoms, the author believes that the active neologisms indicate a tendency towards chronicity. H. M. B.

DUBOISINE.—Belmonda of Modena reports good results with sulphate of duboisine as a sedative in certain forms of mental disease. It is a hypnotic as well as a sedative of motor and sensory irritability, and he believes it will even affect the intellectual disorders favorably. He finds the dose of half a milligram often sufficient at the beginning of the treatment, but it is liable to have to be increased, and he estimates one milligram as the average dose. He never exceeds one and a half milligrams.

While he observed no evil effects on the heart, and it was generally well borne, he found that continued use of full doses might give rise to extreme dryness of the throat, and possibly some gastric irritation. H. M. B.

THE USE OF COCAINE IN PATHOLOGICAL EXPERIMENTATION.—M. Francois-Franck has communicated to the French Academy of Science the results of experiments with a new method. The method is based on the fact that cocainization of a nerve has the same effects as its section, but with the advantage that, after a short time, the nerve regains its functions. Thus the same animal may serve for extended experimentation, and also control experiments may be made with the same subject.

His first researches were made on certain nervous troubles of the heart, and will shortly be published in detail. H. M. B.

ACUTE HEMORRHAGIC ENCEPHALITIS.—Koenigsdorf, (*Deutsche Medizin. Wochenschr., March 3, '92,*) reports a case of acute hemorrhagic encephalitis. Patient was a female, æt. 21 years. Her illness began with headache, sickness and feelings of languor; the symptoms continued with varying severity for three or four days, nothing further being observed until she was found (at the end of this period) in an unconscious state. She was then taken to hospital. On admission, there was still complete unconsciousness; other symptoms were as follows: pupils medium sized, reacted slowly to light; jaws tightly closed, no resistance to attempts to move head, no rigidity of neck. Slight tonic contraction of muscles of extremities. Superficial reflexes slight, decidedly more sluggish on right side. Patella reflex present and equal on the two sides. Much sweating of face, incontinence of urine and fæces.

Traces of albumen in urine. Temperature 37.7° C., pulse full, 60. Patient well nourished. In the course of the day the respiration rate doubled itself and became 40 to the minute. Pulse unaltered. On following day, coma still present, temperature 398° C. Superficial reflexes absent on right side. Eyes fixed; pupils rigid. Right arm flaccid, left performing slow movements. Two days later, superficial reflexes enterely absent, also deep reflexes; pulse flickering, running, respriation superficial, 52 per min. Pronounced right hemiplegia. On following day extreme frequency of respirations, high fever, death. The result of the autopsy was as follows: Veins filled to bursting with dark blood, "lateral sinus" thrombosed, also a large vein on under aspect of right hemisphere. Pia looked normal (except for turgescence); easily removed. Arteries of brain normal; no embolus. Brain-substance, especially of left hemisphere, extremely soft; gyri broad. Walls of lateral ventricles sprinkled with points of blood, separate and in masses; white substance of a lemon-yellow color, especially that of internal capsule (left); numerous hæmorrhagic foci in it. In left optic thalamus a patch of red softening, the size of a walnut, surrounded by bloody points; also a patch of softening in left candate nucleu, central ganglia of right side and "cortex of brain" "intact." Microscopical examination of the left thalmus showed perivascular lymph-spaces full of lymph-corpuscles, and hemorrhagic foci; otherwise no noteworthy abnormalities. [No account of further microscopic changes]. No bacteria in any part.

The author mentions three causes of acute hemorrhagic encephalitis, viz: Epidemic cerebro spinal meningitis, ulcerative endocarditis, influenza. There is also, he adds, a primary form of the disorder. In the present case the cerebral meninges and the endocardium were intact; therefore the first two causes are excluded. The author passes to the third cause—influenza, to which he is disposed to ascribe this case. The disease supervened in the course of an epidemic of influenza; the patient was young and healthy, and no cause for her malady was apparent. Moreover, cases of a similar kind, *i. e.*, in which patients attacked by influenza subsequently developed encephalitis of an acute kind, have been reported by other writers. E. G.

Case of Psychical Disturbance with Chronic Bright's Disease, (Renal Cirrhosis). This is reported in the *Berlin Klin Wochenschr.*, April 25, '92, by Dr. Abegg of the medical clinic, Tuebingen. Patient, æt., 28, single, was admitted November 16 and died November 25 (of same year). She was in a state of acute melancholia, and had evident illusions and delusions, attended with great mental confusion. The urine contained one-fifth per cent albumen, pus, granular and epithelial casts. Other symptoms were headache, vomiting, perspiration, puffiness of face, œdema of legs, some bronchitis, slight increase of cardiac dulness, and systolic murmur at apex of base. Pupils medium-sized, sluggish to light. Slight rise of temperature and increase in pulse-rate. No convulsions, no stupor. Later she became stuporose, and about two minutes before death convulsions of arms and legs were observed. At the autopsy the kidneys were found to be typically "granular" (cirrhotic), and various organs and parts presented conditions met

with in chronic Bright's disease. The sinuses and veins of the cerebral meninges were engorged, the surface of the brain was pale; no other deviations from the normal observed by naked eye in skull contents. From the autopsy it is justifiable to conclude that the melancholia in this case was symptomatic of the renal disease. True psychoses, as distinct from mental disturbances dependent upon uraemia, are decidedly uncommon as a result of such disease. Only by giving the term "uræmia" a very wide application would it be possible to bring under it such disorders as this melancholia. It seems more correct to regard the renal disease as a predisposing cause, as occasioning the mental disturbance only in such general way as any other somatic disease may. Nevertheless, it is the fact that most writers regard the psychosis as merely an uræmic symptom. The author here quotes at length from many authorities, some of whom are opponents of this doctrine, and adopt the same explanation of the connection between renal disease and psychosis as is put forward for the present case. In favor of this it is pointed out that true psychoses are rare in patients suffering from Bright's disease. E. G.

BOOK REVIEWS.

Atlas of Clinical Medicine. By BYROM BRAMWELL, M. D., F. R. C. P., Edin.; F. R. S., Edin.; Assistant Physician to the Edinburgh Royal Infirmary, etc., etc. Vol. I, Parts III and IV. Edinburgh: Printed by T. & A. Constable, at the University Press.

Parts III and IV of this very excellent work meet the high expectations which the two first fasciculi raised. Part III is especially interesting, as it deals with some obscure nervous diseases, more or less closely allied if not directly related to each other, whose pathology is not yet definitely determined, and about which the opinions of the author from his vast experience and great work in this particular direction are of great value. Progressive unilateral atrophy of the face, chronic bulbar paralysis, ophthalmoplegia, molluscum fibrosum and xeroderma pigmentosum make up the contents of this fasciculus. The author presents from his own practice two interesting cases of progressive unilateral atrophy of the face, and after discussing the various theories in regard to the seat of the lesion, central, neuritic, vaso-motor, etc., concludes that it is of central origin, a degenerative atrophy of the nucleus of the fifth nerve with probable involvement of the hypoglossal, analogous, therefore, to progressive (spinal) muscular atrophy. He does not consider the possibility in some cases of a local muscular lesion such as Erb discovered in some cases of progressive muscular atrophy.

A case of chronic progressive bulbar paralysis of unusually short (three months') duration, is mentioned. It is thought, however, to have existed a much longer time unnoticed. The lesion, he thinks, is probably at first central and then extends to the nerves and muscles, though he admits the possibility of its seat being primarily peripheral, in the nerves or muscles.

Ophthalmoplegia, the author makes very clear, a disease which the best German teachers have failed to thoroughly grasp. He considers most minutely its causation, and shows how simple the prognosis is when one has thoroughly sifted the ætiology. Ophthalmoplegia, therefore, due to a local neuritis, would give a favorable prognosis, while that resulting from a degenerative atrophy of the nerve nuclei, or caused by a coarse lesion such as tumors, aneurisms, inflammatory deposits, etc., would be less favorable or hopeless.

Part IV contains a thorough and very readable article on Small Pox and "An Account of a Remarkable Case of Globulinuria." The patient passed daily enormous amounts of mixed proteids, estimated by Esbach's method at times as high as 7.5 per cent, with practically no symptoms whatever. The patient was under observation for sixteen months, and was then taken with the influenza and died. The post-mortem examination showed a slight degree of cirrhosis of the kidneys; the tubules were normal; the epithelium apparently normal, the liver intensely fatty. No explanation of the case or of the unusual deposit of the crystals of globulin which appeared in the urine is given.

Notes of three new cases of Friedreich's disease, together with descriptions of plates illustrating cases of mental disease, complete this fasciculus.

The plates accompanying these two parts are exceptionally strong and life-like, especially those depicting melancholia and mania. Although the subject matter is well worthy of the magnificent form in which it is issued, it is to be feared that the volumes on account of their bulk may not in this ease-loving age be so often consulted as their contents deserve. A. M.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By WILLIAM OSLER, M. D., Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University, and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore; formerly Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. New York: D. Appleton & Co., 1892. Pp. xvi, 1079.

The difficulty of condensing all the essentials of internal medicine within the compass of a single volume increases from year to year. To do it with any reasonable degree of success, an author must exclude many things that are interesting and valuable. Reviews of the history and literature of the subject treated, descriptions and histories of cases, discussions of mooted points, can be but sparingly admitted. An author who is competent to write such a work will be able to occupy all the space at his disposal with his own views on the pathology, diagnosis and treatment of the ever-lengthening list of diseases.

In the work before us we find abundant evidence that a wide acquaintance with the literature of medicine has been tested and supplemented by an extensive experience and a discriminating judgment. The author knows what other people think, but he does not take his opinions at second hand. His style is clear, concise and forcible; his descriptions of disease fasten upon the salient and important points, and the book is, throughout, up with the times.

We incline to think that the limitations imposed by the size of the work make themselves felt as much in the portions devoted to treatment as anywhere. We do not find fault with the scanty notice or omission of measures in which the author has no faith, although there are probably few of his readers who will not find some of their pet remedies treated with little respect, but to the lack of detail, in many cases, in setting forth his own plan of treatment. It is reasonable to expect that many a young practitioner, whose professional library occupies only a single shelf, will have no other authority than this book on the subjects of which he treats. Such a one might feel disappointed if, for instance, after having recognized a case of Landry's paralysis by the description, he should find not a word said in regard to therapeutics. To be sure, there is not very much to be said in this case, but a section on the plan of the renowned chapter on the snakes of Iceland might help to set his mind at rest. To take another case, in which a great deal may be done by treatment, the directions for washing out the nostrils in cases of nasal diphtheria would not insure thoroughness, and nothing is said of the frequency with which it should be done.

Professor Osler gives his readers the full benefit of recent researches on the relation of micro-organisms to disease. He treats of pulmonary consumption, not among diseases of the lungs, but with other forms of tuberculosis,

among infectious diseases. The entire section on tuberculosis is the most satisfactory treatment of the subject that we have seen anywhere, and shows the author at his best. With respect to Koch's "tuberculin," although he has seen more harm than good from it in pulmonary cases, and believes that it should be used with the greatest caution, he considers that its true position as a remedy has not yet been settled. The bacterial origin of Asiatic cholera, erysipelas, diphtheria, glanders and tetanus, in connection with the vegetable forms to which they have been attributed, is unhesitatingly accepted. In malarial fevers he asserts the invariable presence of the bodies described by Laveran. Although he does not commit himself in regard to their precise nature, or the manner of their connection with the disease, he considers them of the greatest importance as furnishing an infallible means of distinguishing malarial troubles from all others with which they might be confounded. Here we cannot help thinking that it would have been well if drawings of the various forms of the parasite, and a brief account of the technique of examination, had been furnished. We think few, comparatively, of the many readers of his book will know just where to look for this information.

The section on diseases of the nervous system occupies 226 pages. No mention is made of those forms of insanity which are not associated with anatomical changes; with this exception, very few of the recognized forms of nervous disease fail of mention; and, although the limits of the work do not admit of the fulness of treatment required by the specialist, there are, we think, few specialists who could not read it with profit. Congestion and anæmia of the spinal cord are dismissed with little ceremony, as impossible of diagnosis. The author recognizes a condition of congestive œdema of the brain, in which, in addition to great filling of the blood-vessels, the substance of the brain is unusually moist. We believe that an increase of the total contents of a closed cavity like the cranium is mechanically impossible. If the blood in the brain is increased in quantity, it can only be by expelling an equal quantity of the other fluid contents of the cranium. An increase of the total amount of fluid implies an atrophy of the solid contents.

In cerebral hemorrhage, venesection is recommended as a means of reducing arterial pressure. In thrombosis and embolism, on the contrary, it is said to be contra-indicated. We incline to think it will have but a narrow field of usefulness until the differential diagnosis between the two conditions is more certain than it is at present. In locomotor ataxia syphilis is recognized as the most important cause. Although not unnoticed, it is not accorded the same importance in "chronic diffuse meningo-encephalitis, (general paresis.) The account of hemiplegia and diplegia in children is especially satisfactory, as might be expected from the author's previously published researches on the subject. Chorea is very fully treated, and the various hypotheses which have been advocated in regard to its etiology discussed without reaching any satisfactory conclusion. In 144 of the author's cases, examined with special reference to this point, there was a history of acute inflammatory rheumatism in only 6, and articular pain and swelling in only 25. Nothing is said about the pathology of epilepsy. The author comes to the conclusion that "The bromides are the only remedies which have a special influence upon the disease." In hysteria and neurasthenia he highly recommends the Weir-Mitchell treatment in appropriate cases.

In acute delirium, the author says, under the head of treatment:

"Even though bodily prostration is apt to come on early and be profound, I would not hesitate to advise, in the case of a robust man, free venesection. It is not at all improbable that some of the many cases of mania in which Benjamin Rush let blood with such benefit belonged to this class of affections. Considering its remarkable calming influence in febrile delirium, the cold bath or the cold pack should be employed. Morphia and chloroform may be administered, and hyoscine and the bromides may be tried. Krafft-Ebing states that Solivetti has obtained good results by the use of ergotin. Unfortunately, as asylum reports show, the disease is almost uniformly fatal." It may be said, in general, that Professor Osler advocates venesection a good deal more freely than has been fashionable of late.

Taken as a whole, we consider the book superior to any of similar plan with which we are acquainted. Its faults are mainly those of too great brevity. We hope it may be expanded, in the next edition, into two volumes.

Annual of the Universal Medical Sciences. A yearly report of the progress of the general sanitary sciences throughout the world. Edited by CHARLES E. SAJOUS, M. D., and seventy associate editors. The F. A. Davis Company, Publishers, 1892.

This year's annual is, as usual, full of the important work accomplished in the medical sciences during the preceding year.

The section on mental diseases, edited by George H. Rohé, M. D., though not extensive, contains much that is valuable. The possible intimate relation of insanity to diseases of the ear has been suggested by Beliakoff, who found in 12.5 per cent. of the autopsies in insane people otitis. He concludes that lesions of the organ of hearing are often the point of origin of intellectual disorders.

Grabe has discovered nearly uniform hyperacidity of the gastric juice in cases of mental disease. This would seem to be an indication for the more frequent washing out of the stomach in the insane, especially where various delusions referable to the stomach keep the patient from eating.

Granger in two thousand cases extending over eight years has noticed that insanity is little affected by intercurrent disease. Severe injuries, however, were more likely to be helpful, as in six cases all showed marked improvement. In regard to general paralysis little that is new has been brought forward. Great prominence is given to heredity and alcoholism in the ætiology.

Obersteiner in a summary of therapeutic observations considers chloral the best hypnotic; sulphonal requires care and cannot be given continuously; paraldehyde loses its effect after a time; hyoscine is effective as a quieting remedy, but dangerous; the methodical use of opium is often successful in melancholia; chloral is the best remedy in the convulsions of general paralysis. In epilepsy bromide of potash continues the sheet anchor, though favorable results are claimed from the use of borax in large doses, also from antipyrine in doses increasing to twenty-five grains three times a day. Hypnotism, though no unfavorable results are attributed to its use, has made no advance in medical favor.

The perusal of the section on "Disease of the Spinal Cord," edited by the late Dr. Birdsall, confirms the feeling of great loss which neurology has suffered by his death. A number of cases of syringo-myelia have been reported, but those confirmed by autopsies continue rare. The present uncertainty in regard to the diagnosis is shown by the fact that while many cases so diagnosed do not present the lesion of syringo-myelia, it is found in other cases in which the disease was not expected. The ætiological importance of syphilis in locomotor ataxia is shown by some statistics of Erb, who reports that eighty-nine per cent of three hundred tabetic patients had syphilis, two-thirds of them having had the secondary symptoms. This is a much higher percentage than has been admitted by many of the other German clinicians. The treatment by suspension is no longer extensively employed and the good result in some of the cases is attributed to the moral effect. The important place of rheumatism in the ætiology of chorea is generally recognized. Antipyrine has been successfully used in its treatment, and chloral is recommended to control the motor disturbances. The other volumes treat the remaining branches of medicine in the same thoroughly scholarly manner, making these volumes invaluable as a work of reference, and enabling the physician to easily keep abreast of the times by furnishing him with that which is best as culled by authorities in all departments of medicine. Complete indices in each volume add much to their value. A. M.

Diseases of the Nervous System. By JEROME K. BAUDUY, M. D., LL. D., Professor of Diseases of the Mind and of Medical Jurisprudence, Missouri Medical College, St. Louis; late Physician in Chief to St. Vincent's Institution for the Insane; Corresponding Member of the New York Society of Neurology and Electrology; formerly Consulting Physician of the St. Louis County Lunatic Asylum; member of the New York Medico-Legal Society, etc. Second edition. Philadelphia: J. B. Lippincott Company, 1892. (8vo. pp. 352.)

It appears from the preface that this is the first part of a work, the second volume of which is to treat of diseases of the brain and spinal cord, and functional and peripheral affections of the nervous system. One might naturally enough wonder what there was left for the first volume. Inspection shows that it is devoted to hyperæmia and anæmia of the brain, including under the latter title the various forms of arterial obstruction, meningitis in its various forms, and insanity. We cannot see any valid reason for the existence of the book, unless it be that alleged in the preface—the solicitations of former pupils—coupled, perhaps, with the expectation of a demand on the part of future pupils. In our opinion, a man is only justified in adding one to the already long list of works on this branch of medicine when he either has new facts to communicate, or can put those that are already known in a more useful form than previously. In our judgment, neither of these things is true of the book before us. The pathology is, to a great extent, antiquated; the clinical descriptions are not adapted to give clear and comprehensive views of the diseases treated, and there is nothing original in the way of therapeutics.

The author devotes a long chapter to hyperæmia of the brain, which is essentially a reproduction of Hammond's well known teachings on that sub-

ject. He argues, at considerable length, to prove what probably few will deny at present, that such a condition is possible, and goes on to attribute to that condition a great variety of symptoms, without furnishing any proof that such is their origin.

He has nothing to say in regard to cerebral localization in connection with the subjects of thrombosis and embolism. A passage from Brown-Séquard, repudiating the whole doctrine, which has been more fruitful in practical results than any other recent advance in cerebral diagnosis and therapeutics, is quoted elsewhere with apparent approval.

In respect to meningitis, the only form which he seems to recognize as resulting from infection by traumatism, or from otorrhœa or similar sources, is external pachymeningitis—certainly the least important of all.

An example of the incompleteness characteristic of the book may be found in the fact that in 156 pages devoted to insanity, nothing is said of hallucinations.

These are, perhaps, sufficient examples to show that the book will serve the purposes neither of the novice nor the specialist.

A Manual of Diseases of the Nervous System. By W. R. GOWERS, M.D., F.R.C.P., F.R.S., Consulting Physician to University College Hospital; Physician to the National Hospital for the Paralyzed and Epileptic. Second edition: revised and enlarged. Volume I: Diseases of the Nerves and Spinal Cord. Philadelphia: P. Blakiston, Son & Co., 1892.

No better indication is afforded of the rapid progress in neurology than this early and enlarged revision of Dr. Gowers' classical treatise, which easily maintains its unrivalled reputation as the exponent of the best thought and practice in this department of medicine. The changes of the new edition consist in the addition and extension of chapters and modifications of the text, resulting in an increase of one hundred and fifty pages. The prominent accessions are chapters on Morvan's disease, in which the distinction from syringomyelia afforded by the complicating neuritis is emphasized: simple senile paraplegia and brachial neuritis. Pellagra is given passing notice "on account of the incidence of its effects on the spinal cord." Substantial enlargement has been made in the chapter on the Caisson disease and the peroneal type of muscular atrophy. The most striking evidence of recent advances in investigation is manifested in the extension of the chapter on multiple neuritis, and the concurrent modification of the discussions of other conditions from which its isolation has removed an ill-understood and perplexing factor. A provisional classification into five ætiological groups is suggested as the basis of further study; and the desirability of thorough knowledge of the toxic form is indicated by reference to possible medico-legal bearings.

Far more reliable evidence, however, of the author's industry, than the extension and addition of chapters, is the thoroughness with which the work of revision has been carried into the body of the text. Comparison of the two editions thus affords a profitable glimpse into the neurological workshop of the author, and reveals the tendency of later researches in lines already marked out. Among the propositions receiving additional confirmation may be especially mentioned those relating to the treatment of neuritis and pro-

gressive muscular atrophy. The superiority over morphine of the subcutaneous use of cocaine for relief of the pain of the former, is not peculiar to the author, but will be accepted with renewed confidence under the stamp of his continued approval. By the subordination of electricity to hypodermatic injections of strychnia in the treatment of the latter, he is still at variance with specialists in his department, but records an encouraging improvement in cases of this intractable disease, less hopefully regarded by his contemporaries. Since Dr. Echevarria, early in the history of the hypodermatic method, emphasized the "widely different effects of strychnine when administered hypodermatically or by the mouth," the utility of this drug as a rapid and powerful nerve stimulant has become a recognized fact of every day observation, and admits no theoretical objection to the conclusion demonstrated by Dr. Gowers' practice.

The author's conservative opinion on the vexed question of "railway spine," based upon the incontrovertible evidence afforded by a study of cases other than those that involve litigation, deserves quotation: "It should be remembered that mental anxiety is a potent cause of disease of the nervous system, and must be strongly opposed to recovery from genuine disorders. The occurrence of improvement when suspense is at an end, is thus no proof in itself of the nature of the case, and its significance has been unquestionably over-estimated; moreover, in a great many individuals whom I have had an opportunity of observing long after they had received 'damages' (as the expression curiously runs) this subsidence has not occurred, and even the 'sovereign balm' of substantial compensation has appeared to do very little for the relief of the sufferer."

The designation of the suspension treatment of locomotor ataxia as a "fashion," like the earlier procedure of nerve stretching for cure of the same disease, leaves opportunity only for the criticism that this novelty hardly merits mention, although this is excusable, perhaps, on the ground of its comparatively recent introduction. Beyond this, nothing but praise can be said of the book, which easily occupies the highest place in its department in the English language, and perhaps in others. A German edition has already been published by Cohen of Bonn, and it is understood that an Italian translation is nearly ready.

The last two chapters on functional and nutritional diseases of the cord, elaborated from the first edition, point toward the more complete discussion of these subjects in their connection with perverted action of the brain and of the nervous system in general, and heighten the pleasure of anticipation of the succeeding volume. J. M. M.

Des Troubles du Langage chez les Aliénés. (Disorders of Speech in the Insane.) Par J. Séglas, Médecin Suppléant de la Salpêtrière, &c. Avec 17 Figures intercallées dans le texte. Paris: J. Rueff & Cie., Editeurs, 106, Boulevard, St. Germain, 1892.

This is a neatly bound and cheaply printed little octavo of three hundred pages, and is one of a series of medical works in the collection Charcot-Debove. It is doubtful whether any equally complete treatise on this subject has ever appeared in the whole history of medical literature, and, taken as a

whole, it is highly creditable to the author, and its perusal is commended to all students of mental medicine. It is not to be expected that anyone could write extensively on such a technical subject in a way to completely escape criticism. The author shows the importance of speech disorders in the insane from a diagnostic point of view, and then proceeds wisely to make a simple and sufficiently full classification of his subject, as follows:

- Disorders of Language in the Insane.
  - Speech ....
    1. The result of intellectual disturbances.
    2. The result of functional disorder of the powers of expression.
    3. Disorders of utterance.
  - Writings..
    1. The result of intellectual disturbances.
    2. The result of functional disorder of the powers of expression.
    3. Disorders of handwriting.
  - Gestures
    1. Independent of the mental disorders.
    2. Resulting from the mental disease.

The author is not equally wise in the subsequent treatment of his subject, which he, in a measure, robs of the charm of simplicity and clearness by yielding to the seductions of a complex classification of the above subdivisions. It at once challenges discussion, which must be metaphysical and not medically scientific when a nosological subdivision is made on so slim a basis as the distinction between conscious and unconscious verbal hallucinations—between verbal auditory hallucinations and auditory illusions—between verbal motor hallucinations and verbal impellent ideas of delusional origin. Had the author omitted psychological refinements and given his admirable clinical facts and original observations in one half the space, his work would have been beyond criticism. Some of his theories, for which he cites French authorities, strike the familiar student of mental science as having their original source as far back as Wundt's "Physiological Psychology," and the pith of the writer's disquisition on what he denominates verbal motor articulatory hallucinations is to be found in such a distant source as Spencer's "Synthetic Philosophy," in which the idea is clearly elaborated that there are always nascent motor impulses present for the utterance of all words and the performance of all acts present in consciousness. This doctrine of nascent motor impulses is used by the author as the basis of refined and theoretical subdivisions of hallucinations. Thus if a patient thinks of a certain word and has a tendency to write it, he is said to have a kinesthetic graphic hallucination so long as he makes no actual movement to write, but as soon as he begins the slightest muscular act to that end he is said to have a graphic motor hallucination, and when he freely writes the words of which he thinks he is said to have graphic impulses.

It is true that many disorders of speech in the insane are, more or less, intimately related to sensorial disorders and false beliefs, but this fact hardly justifies the great length at which the author treats of the intimate nature and variety of hallucinations. The great space devoted to this purpose would not have been inappropriate in a complete treatise on mental diseases, but in a

monographic work of this kind it would have been much more to the point, to say the least, had part of it been given to a consideration of the *rationale* of disordered speech-phenomena, to the physiological principles underlying the same, and to the physical reasons for the pathological mechanism of speech in the special forms of insanity. It is a pleasure to turn from such criticism, as seems natural, if not inevitable in a review, to the more agreeable task of according a full measure of praise to this new and interesting book. There is displayed in it a rare clinical faculty for the original study of symptoms. It is indeed refreshing to find a medical writer who decidedly has *le courage de ses opinions*, and who boldly publishes what he clinically observes, even though he search in vain for something similar in the literature of his subject. In the first part of the book the descriptions of the changes in speech rate, of the alterations of intonation, of echolalia, of verbigeration, of rhyming and of the whole class of aphasic troubles in the insane, are drawn right from nature by a skillful hand.

In the second part of the book the defects and peculiarities of the writings of the insane are likewise treated in an exhaustive way. It would require some enthusiastic bias to accept all the theories advanced on this topic. The handwriting of anyone is an artificial and unstable thing often formed after a set copy, and subject to radical changes during life, and in many hourly varying according to such simple accidental circumstances as a change of pen or of bodily attitude. It is very questionable whether changes in handwriting can reasonably be claimed as an important means of diagnosis in the different forms of insanity. If careful records of the handwriting of a large number of patients before and during mental disease could be obtained, they would furnish some reliable data from which to draw comparative conclusions on this subject, but in their absence it is not the simple chirography so much as the orthography, the grammatical errors, the delusional revelations, and betrayal of impaired memory, that render the writings of the insane of real diagnostic value.

The third part and final division of the book, on mimetic language, on the physiognomy, attitudes and gestures of the insane, again reveals the clinical talent and descriptive powers of the author. The importance of these things in differential diagnosis and in feigned insanity is clearly shown in the work, which thus terminates in the practical spirit which in the main pervades its pages. This book so completely covers the whole subject of disorders of speech in the insane that it will probably remain without a rival for some years to come, and it is to be hoped that it will be translated into English at an early day for the benefit of those who do not read French. T. H. K.

On Certain Peculiarities of the Knee-Jerk in Sleep in a Case of Terminal Dementia. By WILLIAM NOYES, M. D., Assistant Physician and Pathologist, McLean Asylum. Reprinted from *The American Journal of Psychology*, Vol. IV, No. 3.

This is a report of a careful and thorough experimental investigation into the peculiarities of the knee-jerk in a terminal dement in whom the complications from emotional conditions might be presumably avoided. Contrary to expectation the subject showed a greater susceptibility to sensory stimuli as

affecting the reflex than is observed in persons in health. The natural explanation of this was that the inhibitory action of the brain was lessened in the generally defective condition of the functioning of that organ in the subject of experiment. The suggestion occurred to the author that a possible similar state of things existed in all cases of cerebrasthenia, not connected necessarily with insanity and that the instrumental tracings of his experiments afforded a graphic demonstration of the utility of excluding accidental stimuli in such cases—(the tendon being struck regularly at 5″ intervals.)

The tracings also showed a peculiar grouping which suggested a connection with the Traube-Hering curves. To test this plethysmographic tracings were taken from the left arm and subsequently also from the right leg and synchronously recorded on the same drum. The result showed a rather close parallelism of the two tracings. The author's provisional conclusions from these facts are as follows:

(*a.*) "The knee-jerk curve, instead of being theoretically a straight line, as has been heretofore assumed, is, in reality, a curved line, with the general characteristics of the Traube-Hering curve.

(*b.*) "The spinal cord is not constantly in a condition of the highest potential functional activity, but its activity is represented by a curve of rhythmic vascular contraction and dilatation. During the phase of contraction of the spinal arteries the spinal cord is at its least functional activity, due to a condition of relative anæmia, while during the phase of dilatation of the spinal arteries the spinal cord is at its greatest functional activity, due to a condition of relative hyperæmia."

(*c.*) "The question inevitably raised by (*b*) is whether the higher activities of the brain are also subject to a rhythmic rise and fall synchronous with vascular dilatation and contraction."

It is to be hoped that Dr. Noyes will carry on his investigations in the direction which these provisional conclusions naturally point. His paper is creditable to American psychiatry, and we hope we may see more of the kind produced in American hospitals for the insane. H. M. B.

Clinique des Maladies du Système Nerveux. M. le Professeur CHARCOTS Leçons du Professeur, Mémoire, Notes et Observations. Parues pendant les Années, 1889-90 et 1890-91, et Publiées sous la Direction de Georges Guinon, Chef de Clinique, &c. Tome I. Paris, 1892.

This volume of 468 pages contains some of the more interesting clinical lectures of M. Charcot at the Salpêtrière, together with certain memoirs of value on kindred and collateral subjects by some of his collaborators and assistants. The subjects which are treated of in this volume are of general interest to the neurologist, and should be also not without interest to the scientific alienist, whose field, though more limited in some respects in its clinical opportunities, is closely allied to that of the former. Seven of the twenty-three chapters of this work are given to description and discussion of ome of the various phases of the manifestations of hysteria. The extension of the signification of this term and the better understanding we now have of the general subject of hysteria, are largely due to the labors and observa-

tions of the French school, of which M. Charcot is admittedly the head. The recognition and acceptance of his views, especially as to hysteria in the male sex, is becoming the rule in the larger centres of population and medical science. It is a disorder best observed in great cities, and nowhere are the clinical opportunities more abundant or more improved than in Paris. Science owes thanks to M. Charcot for his labors, and those carried on under his direction and influence.

A study of this work and others of the series that are to appear, will without question be of great advantage to whoever practices in a hospital for the insane. It is not only instructive, but is suggestive in many ways as regards the daily phases observed in practice in one of these institutions.

Among the specially interesting lectures may be mentioned those on hysterical tremor, blue œdema of hysteria, ophthalmoplegia, male hysteria, progression in hemiplegia, and cerebral syphilis. Others are of hardly less interest, but these are noticed as showing the class of subjects that are treated of in the volume. It is noteworthy that M. Charcot does not claim more than a limited value for hypnotism in the treatment of hysteria, though this is the condition of all others in which it is of real value.

To appreciate these lectures fully it will be necessary to know the book; it is not practically to give more than a very general statement of its contents in a notice like the present. While possibly not indispensable, it will certainly be a valuable addition to the library of any one who has to do with the class of disorders of which it treats. H. M. B.

Syphilis in Ancient and Pre-Historic Times. By Dr. F. Buret. Vol. I. Translated from the French by A. H. Ohmann-Dumesnil, M.D., Professor of Dermatology and Syphilology in the St. Louis College of Physicians and Surgeons, etc., etc. Physicians' and Students' Ready Reference Series. F. A. Davis, Philadelphia and London, 1891.

This book is a part of a thesis which considers the history of syphilis from pre-historic times, when the disease left its mark on the bones that have been unearthed by archæological investigators, down to the present, when its existence is manifested almost everywhere we turn in the physical and mental condition of its victims. The present volume, the first of three, is the only one translated as yet. It has been written not especially for medical and scientific men, but also for those of the laity who might be interested in such a topic. Hence arises a partial freedom from technical terms in its diction.

As the author, in his preface, promises shall be done, the subject is handled boldly, and there are only a few instances wherein the text of his references has been considered too salaciously unsavory to be translated from its original Latin. The various conclusions reached are often abruptly stated and printed with a facetiousness that would amount to levity, were not the researches upon which they are based so profound.

Syphilis is described, in successive chapters, as it probably existed in pre-historic times in Europe; as it has been recorded 5,000 years ago in China and Japan; as it was in Egypt at the time of the Pharaohs, and as it may be considered to have been propagated among the Hebrews in Biblical times. Exostoses on excavated bones, medical treatises and the records of kings,

writings on papyrus and traditions, and even the Bible, are all brought forward and considered as evidence that the disease existed in those ancient times. The weight of this testimony will probably vary greatly according to the sentiment of the reader; for, when one is asked to read between the lines of the history of Abraham and Sarah in Genesis, and even in those of the Psalms, expressing lamentation, and see their descriptions of initial lesions and osteocopic pains, his sense of reverence may well be shocked, and his conclusion may be, not unnaturally, that the author's other deductions have no better foundation.

Later on, the disease and the means of its dissemination among the Greeks and Romans are described, together with the lasciviousness and lubricity of these peoples as their governments declined. The final chapter is devoted to the treatment of pox as it is practiced in France to-day.

The book is interesting all the way through, and while it may not be said to have proved its theories that "syphilis dates from the creation of man," it convinces us that no nation now in existence should be held responsible for the introduction of this pest.

The translation by Dr. Ohmann-Dumesnil has been carefully made, and we hope that the remaining volumes will be as well treated. R. R. D.

LETTER FROM FRANCE.

French *versus* American Methods of Appointment to Asylum Positions.

It would probably be of interest to give some account in this letter of the esprit and regulations that have, up to the present, controlled the organization and *personnel* of the public asylums for the insane in France, principally as regards the medical staffs, and also to point out the improvements that have recently been made, as well as those that are still demanded by the actual conditions and which seem to be upon the point of being realized. I am led to take up this subject from a knowledge of certain more or less recent events in America, which have, in this country, made a decided impression amongst those who have the charge and care of the insane.

We have been astonished to learn that in some of your States purely political considerations have sometimes governed the selection of superintendent, physicians, and even the whole administrative *personnel* of the asylum; and still more, if that is possible, to know that in these same States unexpected changes have been made that overturn from the bottom and even completely renew the whole administrative staff of asylums, and that these changes are made entirely upon political grounds.

What has politics in common with asylums for the insane? Why, because one of the reversals in public opinion differs more or less from those of their predecessors, should it be necessary for the last comers to think they have the right to change or destroy all that the others have done? Having conquered in the strife that has resulted in giving them the charge of affairs, shall they pretend that everything touching in the slightest degree the administration and public service of which they have become the masters should be regarded by them as a legitimate spoil, as a rich plunder that they hasten to divide amongst themselves and their friends?

As applied to insane asylums, such a practice and view is absolutely unjustifiable. It is opposed not only to all equity and justice, but also, and especially, to the most sacred interests of the unfortunates who are compelled by their mental disease to be the inmates of the asylums. It compromises alike their material condition, their comfort, their cure, their security, and the security of the public.

A physician or a superintendent of an asylum cannot be improvised off hand. Long years of study, of practical experience, are required to confer the needed knowledge of mental disorders that is essential in the direction of an asylum and to enable him to know how to best treat the insane, to oversee them, to regulate their conditions in life, and in a word to do what is best for them in all respects. It can be safely said that whoever is suddenly and directly invested with the higher administrative or medical functions of an asylum without previous experience, will almost inevitably commit serious errors and inefficiently fulfill his duties, and probably seriously compromise the interests that have been confided to his care.

We are able to say, not without legitimate satisfaction, that the public authorities in France have always endeavored to entrust the direction and medical service of asylums to men that have furnished proofs of real fitness for the positions. If sometimes there have been errors committed in this respect, they have generally been slight, and they have always sought to limit their number and importance as much as possible.

From the time when the organization of the public care of the insane was begun, endeavors were made to select for the positions of physicians and directors of asylums only such men as had already acquired sufficient knowledge and experience. On this principle, likewise, it was sought to limit as much as possible the influence of caprice and favor in making the nominations for these positions. The rules established for this purpose were certainly not at first perfect, and they are at the present time still susceptible of improvement, but they have, nevertheless, demonstrated their utility.

Before the promulgation of the law of June 30, 1838, there was no general administration of insane asylums in France; every asylum was isolated and independent and regulated by the local authorities. These, however, showed always a desire to put them in good hands, and we see, therefore, the few asylums of this epoch entrusted to the care of physicians who had been educated in the school of Pinel and Esquirol, and who were well acquainted with the insane and their ailments; among them we may cite the names of the illustrious Delaye, Foville, Calmeil, Georget, and still others.

The law of 1838 and the royal ordinance of December, 1839,

regulated the practice followed prior to that time and established its centralization. It specified that while the public establishments devoted to the insane should all be placed under the authority of the minister of the interior, representing the central government, they should nevertheless remain under the immediate oversight of the prefects of each department; that the directors and physicians, in chief or adjunct, should be nominated by the minister of the interior, and their appointment be revoked only by him, and that they should be selected either from a list of candidates presented by the prefects or chosen from among the chief or assistant physicians who had already served three years in other asylums for the insane.

The rules thus established were evidently in conformity with the important principles of which they were at once the consequence and the consecration.

The first of these principles, the good sense of which alone demands its application, is that to be able to care for the insane and direct an asylum, one should have experience and have a sufficiently long initiation in all that concerns the treatment of mental disease. It is found, not without good reasons, that three years' experience was not too much to demand, and that the best way to employ these three years would be in the capacity of assistant physician under the direction of a physician in chief who should play the part of a veritable educator.

The sacred principle is that the nomination to the position of physician in chief, or director, should not be abandoned to the caprices of men charged with superior authority, and that removal of a director or physician, or change in the administration of an asylum, should be done only for serious and important reasons.

Finally, in obliging the director and chief physician to reside in the asylum, was offered that other principle that in order to best know the insane and to be really useful to them, one must live among them and almost under the same conditions. "In order for the physician to exercise upon his staff and his patients the necessary authority," say the inspectors general in their report for 1874, "it is necessary that he should know the insane, and he can know them well only by living among them,"

From 1838 to 1852 the nomination of the directors and physicians of asylums was therefore centralized in the hands of the minister of the interier.

At this period it was asked, would it not be better to relieve the minister of the interior of this office, and with the idea of decentralizing, to entrust to the prefects the duty of appointing, not only the directors, but the physicians of the asylums. A decree of March 18, 1852, authorized this change, but in reality it was purely illusory, and could hardly be otherwise. The prefects, in fact, were scarcely competent to choose the candidates for the vacant posts. They had scarcely any acquaintance with the medical staff of the French asylums, and consequently could not know how best to find the men suitable for the positions which they were to fill.

The inconveniences which resulted were so evident that the central authority hastened to provide for them. Hardly had the decree been promulgated than a circular, dated 5th of May, 1852, appeared to regulate, or, as we may better say, to limit its application, and, in reality, the authority given to the prefects with one hand was withdrawn with the other.

This circular, evidently inspired by the principles already announced, said: "You will not lose sight, M. le Prefect, that to be entrusted with the care of treating mental diseases, it is not sufficient for one to possess a diploma of doctor of medicine. You will need practitioners who desire to enter into this career, and who are qualified either by experience in a public or private asylum or by special studies."

The circular next pointed out to the prefects the methods of making their choice, and in this brought them back to precisely the old conditions. "When my predecessors," said the minister, "had to name the physicians of public asylums, they advised with the inspectors general of the asylums for the insane, who are alone fitted to designate the candidates to fill these positions. The intervention of these functionaries appears to me to be still of utility. Therefore you will inform me of vacancies which are to be filled and I will ask the inspectors general to furnish a list of candidates, among whom you will be able to make your choice."

In fact, it was the prefect who reigned and named, but it was the minister who governed through the inspectors general; it was really a return to the former state of things. The decree of March 26th only complicated the procedure of making the nominations, and it was the inspectors general who, as before, were

charged with the duty of providing the administrative and medical staffs of the asylums. The office of these inspectors general was created by the law of June 30, 1838.

Up to 1848 there was only one inspector general, Ferrus. From 1848 to 1859 Parchappe was called to share with him the exercise of this high and important function. In 1859 Ferrus retired; Parchappe continued alone with the title of inspector of the first class, and there were added two inspectors of the second class, the three forming the section of inspectors. The service, properly so-called, of general inspection, was successively entrusted to men of great ability, Lunier, Constans, Dumesnil, and lastly Achille Foville.

These officials are thoroughly acquainted with the whole *personnel* of the asylums for the insane in France; the inspections put them thoroughly *en rapport* with it, and permit them to properly estimate who are the most capable, what physicians are the most accomplished, what administrative officials are the most efficient and who merit promotion to the principal positions in the largest asylums.

The prefects, following the directions of the minister, addressed themselves to the inspectors whenever they had an appointment to make, and, thanks to this practice, we see, as in the past, the highest positions in the asylums for the insane put in the hands of men of tested ability, of full knowledge and experience, and some of whom have acquired decided celebrity.

At present the nominations of physicians in chief of asylums in France are made under the regulations of the decree of 1852.

There is, however, a tendency to return to the preceding condition of affairs. The movement in this direction is connected with that which has for its object the revision and improvement of the law of 1838. About twelve years ago the government presented to the chambers a project for the revision of this law, which, submitted first to the Senate, after long study and a partial modification, has been ordered to be reprinted, and will shortly, without doubt, come before the Chamber of Deputies.

As regards the nomination of directors and physicians of asylums, it is universally agreed that, with certain improvements, a return to the former condition of things is necessary; the principles we have enunciated must be followed and the appointments be given into the hands of the central authority.

In the statement of the objects of its proposed law, the government said that the intervention of the minister in the nomination of directors and physicians of the asylums is a necessity, since the central authority is the only one that can properly make the selections and changes that are required for the good of the service. Consequently, article seven of the proposed law states that the directors, the chief physicians and their assistants, as well as certain other functionaries, specially designated, shall be nominated by the minister of the interior.

The Senate agreed with the government, and in details of the law voted by it in 1887, it enacted that these appointments should be made by the minister; nevertheless, with the evident object of preventing favoritism or error, it stipulated that the minister should not act alone in this matter, but added that the appointments should be made on the nomination of a superior commissioner of the insane, comprising the inspector general of the service and a certain number of other notabilities. In making this arrangement the Senate gave a legal and definite existence to that which previously had been only provisional, and it affirmed once more the constant tendency in France, in the matter of the management of the insane, to only confide the direction and medical service of the asylums to men who had acquired experience in these duties.

If matters were organized only as has been described, it would be well, but there is still incitement to do better.

One of the most important questions as regards the management of the insane, is that of the supply of the *personnel* of the asylums. It is evident, that in order to have in the future good directors and physicians in chief, it will be necessary to be assured of the aptitude of those who are to fill these positions. It is also necessary that these latter, having consecrated themselves to this career, should be assured of their prospects.

The following is, in a general way, the method by which up to the present time, the staff has been recruited. The physicians in chief of the more important asylums have been taken by preference from among those who are in charge of smaller positions; both are nearly always taken from the corps of assistant physicians, and the latter are recruited among the young doctors and principally among those who had filled the position of internes in the asylums. But to be an interne or to become an assistant

physician has been possible without definite qualifications or the assurance of special study in this line. On the other hand, the principal positions might be filled by men who had never passed through the inferior stations and whose appointment might be considered as a usurpation, to the detriment of the assistant physicians.

The inspectors general themselves recognized the abuses which might arise from this condition of affairs, and in 1874 they proposed the appointment of the medical staff of asylums by *concours*, under the condition, nevertheless, that the *concours* should be applicable only to the appointment of assistant physicians, from whom later should be appointed the chiefs of the service.

In its project of revision of the law of 1838, the government did not present any special provision as to this point. This was not because it did not recognize the necessity of having men really capable in charge of the asylums. "The treatment of the insane comes under the charge of the public charities," says the *exposé* of the motives of the government, "and it should only be confided to such physicians as have devoted themselves to the study of mental disorders." Also, "to destroy the specialty of alienism in the establishments for the insane would be to sacrifice at once the interests of the patients and those of science." But the government went no further and seemed to be willing to retain the errors of the past so far as the recruiting of the staff was concerned.

The commission appointed by the Senate to examine the proposition of the government gave its special attention to this matter and considered that in it there was need of improvement. It was of the opinion that the entry upon the career of an alienist should not depend solely on circumstances, and that whatever candidates might present themselves should be accepted, but that regard should be paid to their quality, and appointment be made after the test of a public competition.

Dr. Roussel, writing on this subject in the name of the commission, says: "Nothing in the present condition gives any assurance that the mere possession of a diploma by the favored candidate will not be all the condition required for his appointment. The need of preventing the thus too certain abuses is so much the greater; the more important is the solution of this question for the future of that branch of medical science called

the *specialty of alienism*, the progress of which corresponds to a public need. * * * Only one means permits us to reach that result: the *concours* for admission to the functions of assistant physicians in the public institutions for the insane."

The commission was not of the opinion that the appointment of the physician in chief should also be subject to the result of public competition; they thought it would be enough if the qualifications, etc. of the assistant physicians should be submitted to disinterested judges, so that their promotion might be regular and the service well organized.

The senate, conformably to the advice of the commission, voted the two following regulations:

"The assistant physicians are to be appointed from a list made up from the results of public competition."

"The physicians in chief are to be appointed from a list presented by the superior committee."

Laws are not in force in France until after they have been passed by the Senate and by the Chamber of Deputies. The latter has not yet been called upon to pronounce upon the revision of the law of 1838. It will doubtless not delay to do so. Nevertheless, not waiting for this to be done, the government has thought it proper to respect the opinions of competent men and, by a decree dated July, 1888, it arranged a competition for admission to the corps of assistant physicians of asylums. By the same decree it fixed the condition and the programme of this competition. It must be said, nevertheless, that the provisions of this decree are open to special criticism upon one very important point. They give no guarantee of the future to those who enter the competition in question. They do not ensure to those who have passed the tests successfully either admission to the employment for which they seek or any certainty of regular advancement in their career.

First point: The candidate has passed successfully; but if there is no place vacant nothing will be provided for him. Further, the decree provides that if the same candidate passes six years without having been put in any position he shall lose all his rights. How can we hope to draw young men into a career when so many uncertainties are before them? Will they not after having passed prefer some other career rather than await an uncertain appointment? One of two things will happen: either the candidates will be lacking or, compelled to wait, they will

find other employment in the interval, and the vacant posts will not, when they occur, be provided with properly qualified successful competitors. It should be provided that the competition should only be open when there are places to really be disposed of, and that the successful competitor should immediately be appointed to the place.

Second point, not less important than the first: In the present conditions, those who have obtained the appointment of assistant physicians, who have evidently the intention of consecrating their life to the alienist's career, and who consequently may legitimately hope to see the time when they can better their condition, have no assurance of the promotion which is their right. They are liable to see preferred before them, for the position of physician in chief, men who have never passed through the subordinate positions or submitted to the competition. The minister is really, as regards this matter, entirely unhampered as regards his choice.

Undoubtedly it may happen in such cases, that good reasons may exist for entrusting a post of this kind to a man who, without having passed through the lower stages, has distinguished himself in medico-mental science and has acquired distinction and experience. But this ought to be only an exception and a rarity, whereas, in the present condition, nothing prevents its being the rule.

We may say here that the present Chamber of Deputies without doubt will be called in the near future to take up in its turn the reform of the law of 1838. It has designated to prepare the elements of the public discussion, a commission which has charged Dr. Ernest Lafond with the construction of its report. This commission has endeavored to meet the difficulties of which we have spoken, and its opinion is, that it is necessary to furnish guarantees for the future to physicians who devote their lives to labor in the asylums.

It demands that the physician directors and the physicians in chief should be always chosen from the assistant physicians, and specifies also, as has been done in previous decrees, that promotion shall only occur after three years in the lower position. This requirement is evidently a wise one, since fully three years are needed to acquire the experience and knowledge that are indispensable for directing an asylum and treating its inmates. The physicians in chief fulfilling the required conditions, are to be

appointed from a list of nominees presented by the superior committee. The minister can therefore make his choice from the most worthy and the most distinguished, but he cannot make it outside the assistant physicians, whose rights are thus protected.

The provisions of the law to be voted upon by the Chamber of Deputies are to be drawn up as follows:

"The physician directors, the directors, physicians in chief and assistant physicians of public asylums for the insane should be appointed by the minister of the interior.

The assistant physicians should be appointed from a list of nominees presented as the result of a public competition.

The physicians in chief shall be chosen from among the assistant physicians of at least three years' experience, and be appointed from a list presented by the superior committee of the insane."

Such is the actual condition of affairs in France at the present time, as regards the recruiting and the organization of the medical staff of the public asylums. The history I have related justifies what was said in the beginning, namely, that in France there has always been an honest endeavor to place at the head of these institutions only such men as have made it their life career, and who have acquired sufficient knowledge and experience. This is assuredly the only proper practice, the only one capable of giving good results, and serving at the same time the interests and well being of the unfortunates, as well as advancing the progress of medical science.

Similar considerations might be applied, though certainly under different conditions, in the supplying of the *personnel* of nurses and attendants in the asylums. I merely mention this, as it would be going too far to enter upon this subject here. For the same reason I abstain from speaking of the permanence that is essential in the *personnel* of an asylum in order that it be in a condition to truly fulfil its mission.

It is to be hoped that the principles here stated may be applied always and in all lands, and that the direction of an asylum and the care of the insane may never be entrusted to those who have neither the special knowledge, the experience nor the necessary aptitudes. They are duties that it is certainly culpable to put into the hands of the first comer, who has no other title than the favor of the men in power. VICTOR PARANT, M. D.

Toulouse, June, 1892.

BRITISH CORRESPONDENCE.

Medico-Psychological Association.

The annual meeting will this year be held at York on the occasion of the centenary of the foundation of the York Retreat. This and the fact that Dr. Baker is this year's President are sure to give the meeting an historic interest. What the subject of Dr. Baker's presidential address will be is of course mere matter of conjecture; but on the eve of his retirement from the superintendentship of the York Retreat an interesting occasion is furnished for an historical resumé and criticism of the non-restraint system. The association is about to appoint a registrar for its nursing scheme. The scheme is maturing by leaps and bounds beyond the expectation of even its most sanguine promoter, and the association has demonstrated once again the truth of the saying, "union is strength." The work of the registrar will be no sinecure, and it will be necessary to give him an allowance for clerical assistance. A small fee will probably be charged to candidates going up for examination, and eventually a solid, useful and thoroughly practical scheme of registration may be looked for.

Handbook for Instruction of Attendants.

As a result of the adoption by asylum superintendents of the association scheme of nursing and examination, the handbook started by the Scotch editors in 1884 is now out of print, and the association with the hearty coöperation of the original editors is now contemplating the issue of a new and enlarged edition. It is gratifying to note these signs of unity among asylum men in this country. Only in this way can a training scheme be of any permanent and efficient service to all concerned, but it might be difficult in a country larger than this to organize it successfully, especially a country like America of magnificent distances and many autonomies.

The Teaching of Psychological Medicine.

A decided advance has now been made in this direction by the order of the General Medical Council of Registration, and by the ordinances of the Scottish University Commissioners. All students beginning the study of medicine after 1st January last must receive systematic

and clinical instruction in psychological medicine before going up for final examination. As a result of this there is evidence of more and more asylums being got in order for clinical instruction, and of superintendents attaching themselves to medical schools. Furthermore, new books on insanity are appearing with a view to meet the wants of students and practitioners, though anything that has yet come out is of little account compared with such standard works as Clouston's, Bevan Lewis', Savage's and Blandford's. It is a pity that no one has yet undertaken an English translation of the latest edition of Griesinger's classical work, but the great question with author and publisher now-a-days is: Will it pay? In the light of such a question, and its probable answer, we cannot help congratulating Dr. Hack Tuke on his courage in undertaking the publication of a Dictionary of Psychological Medicine. That it will pay is far from likely, though undoubtedly it will be in many respects a unique and excellent work of reference. The value of such a dictionary, however, will depend largely on the discrimination with which the editor has recognized the affinities of authors and subjects. It will be a work for libraries more than for general use. A. C. C.

NOTES AND COMMENTS.

J. B. ANDREWS, M.A., M.D.—Judson Boardman Andrews, whose portrait appears in this issue, was born in North Haven, Conn., on the 25th of April, 1834.

He was descended on his father's side from William Andrews, an early settler of New Haven, who sailed from Hampsworth, England, in April, 1635, and on his mother's side from a brother of Elihu Yale, the founder of Yale College. After graduating from Yale in the class of '55, he taught school until he began the study of medicine in the Jefferson Medical College in Philadelphia, in 1857. At the close of the lecture course, he resumed teaching in Saratoga County, N. Y., in which he was engaged at the opening of the civil war.

In the spring of 1861 he joined the Stillwater Company of Zouaves, which had been organized and drilled by Col. Ellsworth. The death of this famous commander, whose family resided in the village of Mechanicville, where the subject of this sketch was then teaching, aroused his patriotic ardor, and proved the turning point in his future course. He enlisted in the 77th N. Y. Vols., the Bemis Heights Regiment, which was recruited in Saratoga County, and was elected captain of Company F.

The regiment was assigned to Franklin's Corps of the Army of the Potomac, and took part in the Peninsular Campaign against Richmond, participating in the siege of Yorktown, the battles of Williamsburgh, Mechanicsville, Savage Station, White Oak Swamp and Malvern Hill. After the retreat to Harrison's Landing in July, 1862, the young soldier resigned his commission on account of ill-health, and returned to New Haven, where he completed his medical studies and received the degree of M.D. from the Yale Medical School in February, 1863.

To fit himself for service in the army, he entered the Germantown Hospital as medical cadet, and in July, having passed the State examination, was commissioned assistant surgeon, and assigned to the 19th Conn. Vols., which was on duty in the fortifications about Alexandria, Va. The regiment was subsequently changed from infantry to heavy artillery, and was designated the 2d C. V. A.

When Grant assumed command, this with other artillery regiments was ordered to the field and assigned to the 6th Army Corps, with which it served during the war. It took part in the battle of Cold Harbor, in which it lost 129 men, killed and mortally wounded. This gives it the first place among the regiments of the Union Army in members killed in any single engagement, while its losses in killed during the war, 254, make its record a notable one.

In July, 1864, the Sixth corps, to which it belonged, was sent from the front of Petersburg to the defense of Washington, and was afterward assigned to duty in the Shenandoah Valley under Sheridan. In this campaign it was engaged in the battles of Winchester, Fisher's Hill and Cedar Creek. The following December it was returned to Petersburg to its former position in the Union line, and fought at Hatcher's Run, at the successful assault on the Confederate lines, April, 1865, at Little Sailor's Creek, and was present at the surrender of Lee at Appomattox. The regiment was mustered out of service at New Haven, Conn., in September, 1865.

During the whole period of active service, Dr. Andrews followed the fortunes of the regiment, doing duty on the field in immediate care of the wounded, and in the hospital of the division. He was detailed as surgeon in charge of a regiment, and at times was the only medical officer present for duty in the field in the brigade.

He was one of the first members of the Grand Army of the Republic in the State of New York, having had the degrees communicated to him by Gen. James B. McKean, who was provisional department commander before any post had been established in the State. At a later date he joined the Military Order of the Loyal Legion.

For some years he was active in Masonry, having been made master of Faxton Lodge, No. 697, and having received honorary membership in the 33d of Scottish Rite Masonry.

In 1867 he received the appointment of third assistant physician in the New York State Lunatic Asylum at Utica, at that time under the charge of Dr. John P. Gray. By rapid promotion he became first assistant in 1871, and continued in this rank until the opening of the Buffalo State Hospital in 1880, when he was appointed superintendent of the latter institution, a position which he still occupies.

On becoming a resident of Buffalo he was made lecturer upon insanity in the Buffalo Medical College; soon after was elected Professor of Psychological Medicine, and still retains that position. In 1886 he was elected president of the Erie County Medical Society. He was a founder member of the New York State Medical Association, and is now the president of that organization.

He was president of the Section of Psychological Medicine and Nervous Disease of the Ninth International Congress, held in Washington in 1887, and in 1892 was elected president of the "American Medico-Psychological Association," formerly the "Association of Medical Superintendents of American Institutions for the Insane."

During his professional career he has been a frequent contributor of papers to medical societies and journals. While in the Utica Hospital he was for some ten years the working editor of the AMERICAN JOURNAL OF INSANITY, and wrote extensively for its columns. His articles on "Phosphoric Acid" and "Chloral" were freely quoted from by medical journals, and often referred to by authors of works on Materia Medica and Practice.

Dr. Andrews has been a strenuous advocate of State Care of the Insane, and aided materially in establishing the present system which gives promise of greatly ameliorating the condition of this unfortunate class. Under his superintendency at the Buffalo Hospital, the training of attendants as nurses upon the insane was inaugurated and carried to a successful issue, and already six classes of men and women attendants have taken their diplomas. As one of the pioneers in this important movement, the Buffalo school furnished an impetus to, and served to popularize, the systematic training of nurses for the insane in the United States.

Dr. Andrews is an able, active, energetic worker in his chosen field of labor, the success of his career as a practical alienist being fully attested by the history of the Buffalo State Hospital as well as by his enviable record at the parent institution at Utica. His brethren in the craft will concede that he has well earned the proud distinction of being the first president of the "American Medico-Psychological Association."

SPECIAL PROVISION FOR EPILEPTICS—For many years past the subject of special hospitals for epileptics has been under frequent consideration by superintendents of asylums, superintendents of the poor, and state boards of charities,, but nothing was ever accomplished until within a year or so, for the reason that the methods of provision were not understood and adequate plans could not be formulated through lack of precedent. No such institutions were known to exist. In 1886, Dr. Frederick Peterson of New York, while on a tour of inspection of foreign asylums, heard of the existence of a colony for epileptics at Bielefeld in the province of Hanover, Germany, and visited it. He describes his visit in the New York *Medical Record*, April 23, 1887, and immediately followed his first paper with numerous others in the *Journal of Nervous and Mental Disease* and *State Charities Record*, and with vigorous editorials in the New York *Medical Journal* and in some of the daily papers. As a result of his work, the project of an institution for epileptics was taken up in Ohio, and the commission visited Dr. Peterson in New York and secured and acted upon his advice in the selection of the site at Gallipolis and of plans on the cottage system. The corner stone for this home for epileptics was laid November 12, 1891, and the buildings are rapidly approaching completion. In California, also, the work has begun, by the building of special pavilions in conjunction with the California Home for Feeble Minded Children in Sonoma county. In this State of New York, the law making the State Board of Charities a commission to select a site and prepare plans on the colony system was passed by the last legislature, having failed the year before. It was drafted by Dr. Peterson and modified by the State Charities Aid Association. The State Board of Charities, at its meeting July 13, 1892, appointed Messrs. Oscar Craig, William P. Letchworth and Peter Walrath a committee to take this matter in hand.

In Massachusetts, Dr. Stedman is making an effort to effect the same change in the care of this defective class, and in Pennsylvania Dr. J. Madison Taylor has begun the propaganda.

The plan adopted at Gallipolis is the cottage or pavilion plan, but it is anticipated that New York will improve upon this by making the institution distinctly a colony, as the law requires, *i. e.*, it shall not have the symmetrical management of an insti-

tution, but approach as nearly as possible to the character of a small country village, with scattered clusters of buildings over large grounds. For the aim of such a colony is four-fold. It is a hospital where the insane will be cared for, and every epileptic treated for his malady. It is a school where each and all will be given an opportunity to acquire an education. It is an industrial college, in which each shall have, as far as possible, his share in the cöoperative labor, where all sorts of callings and trades shall be plied, exactly as in any small village. Lastly it is a home, a retreat, to those who find no place in ordinary social life, their seizures depriving them of the privileges of companionship, family, congenial occupation and the like.

This is the aim of the institution to be established in New York State, and all of the epileptics now in asylums and poorhouses, without exception, will be accepted by and become members of this colony. It is not a visionary scheme, because Bielefeld is just such a colony, and at least twelve others exist in different parts of Germany, Austria, Holland, Belgium, Switzerland and France, modelled on the same plan.

Capital Punishment in New York.—The Medical Society of the State of New York is opposed to the perpetuation of capital punishment, and expresses, through the medium of a report,* presented by a committee of its members, a hope "that means will be found to protect the community by less uncertain and less inhuman methods." The conclusions arrrived at by the committee will probably be pretty generally accepted by the profession. Some of its members may smile at the somewhat labored catalogue of diseases which may, directly or indirectly, produce mental degeneration. But they will regretfully concur in the view that "the reports of experts are quite often contradictory," and consequently endorse the conclusion "that where there is a doubt in an individual case of crime in regard to either responsibility or irresponsibility it is safer to take the alleged criminal to be diseased and morbid than to declare the sick to be a criminal." While the conclusions of the committee are not open to serious criticism, the same cannot be said of some of the deductions leading up to these conclusions. The question at issue, it must be borne in mind, is explicitly stated by the com-

* See Transactions of the Society, February, 1892

mittee to have been investigated from "a scientific point of view." Nevertheless it cannot be said that the committee has adhered to strictly scientific methods. In some instances, it is true, deductions are drawn from cases which came under the direct personal observation of one or other members of the committee. This is as it should be. But what can be said for the scientific methods of a committee who make charges which, without a journey of some eight to nine thousand miles, could certainly not be scientifically investigated, much less verified? Count Tolstöi, the eminent Russian writer and philanthropist, is, according to the evidence of his wife and some of his journalistic friends, somewhat of a "crank." Still, no one acquainted with the varied character of his writings has attempted to deny his ability and power. And yet this committee, professing to look at things from a purely scientific standpoint, charges Tolstöi with practices which we certainly shall not describe, and which, if indulged in, must long ago have impaired his powerful intellect and physique. The committee also appears to disapprove of Tolstöi's least satisfactory—perhaps we should say most unsatisfactory work—the "Kreutzer Sonata." That, too, is well enough when considered apart from the question of capital punishment. But from what "scientific point of view" they have reached the positive conclusion that the hero of the Kreutzer Sonata is an auto-photograph, it is difficult to imagine. Among pseudo-scientists so-called scientific methods are very much the "vogue" now-a-days, and many things are said and done in the name of science which will not stand testing by the true standards. That a committee of the Medical Society of the State of New York should have fallen into the methods of the pseudo-scientist is a matter for great regret.

The Financial Aspects of State Care in New York.—The advantage to the counties of the State Care Act financially, because, unfortunately, that is the side upon which many people regard this subject, and the point which superintendents of the poor especially attack, has been clearly set forth by Mr. McGarr, secretary of the State Commission in Lunacy, in a letter to the *Sandy Creek News*. This letter was written in answer to that of the superintendent of the poor of Oswego county, who claimed that the State care system is much more expensive than the old method of caring for the county's insane. Mr. McGarr

shows that the cost to Oswego county under the old system, when the chronic cases were maintained at the county house at an estimated cost of two dollars per week for each patient, and the acute cases were sent to State hospitals at a charge of $3.75 per week, was $22,500 for the year. The present cost for the same number when all the indigent county patients are treated in the State hospitals is $25,012. He adds, however, that as soon as all the indigent insane of the State are placed in State hospitals, the State will assume all the charges, each county paying its *pro rata* lunacy tax, according to its assessed valuation. Oswego county on its present valuation would then pay $9,103.47. The reason for this marked difference is due to the fact that New York and Kings (including Brooklyn) together would pay more than one-half of the estimated total lunacy tax. The State Care Act, therefore, bears most heavily on the richer counties and very much less on the poorer.

SAINT SAVIOUR'S SANITARIUM.—A home, under this name, for the care of women addicted to the excessive use of alcohol or opium or other narcotics, under the care of the Protestant Sisters of St. Mary, has recently been established at Inwood-on-the-Hudson, New York City. It is empowered by law to receive and retain in custody voluntary cases for six months and also those committed to its custody for such length of time as its trustees may deem necessary for treatment and reformation. This home presents a somewhat new departure, and promises to be most helpful to that class for whom it is intended. One of the greatest difficulties in the treatment of cases of inebriety and mild forms of insanity in the richer classes, a difficulty which this sanitarium seems likely to overcome, is to secure suitable persons to take care of the patients. The danger is that attendants or nurses will be employed; whereas such cases require *companions*, whose previous education and training fit them to influence such patients and to help them in a *tactful* way to build up their own moral natures, which have been weakened by disease. The high character and skill of the medical staff give assurance that it will be conducted in accordance with the best medical methods. It is to be hoped that it will be found possible to reduce the charges, which are now $50 per week, not including fees of the visiting physician, and thus broaden greatly its field of usefulness.

THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane was held at Washington, D. C., May 3–6, 1892. This convention was epoch-making in so far as, on May 5th, the sub-committee of a general committee on re-organization, composed of Drs. Edward Cowles, John B. Chapin and Henry M. Hurd, submitted a draft of a new constitution and by-laws, which, after a few minor amendments, was unanimously adopted by the Association.

Article I furnishes the key-note of the new constitution: This organization shall be known as the American Medico-Psychological Association, this name being adopted in 1892 by "The Association of Medical Superintendents of American Institutions for the Insane," founded in 1844.

This change of name implies a more enlightened conception of the objects of the Association. With its scope thus widened and its scientific side thus emphasized, the venerable association galvanized itself into new life and paved the way for the further declaration that "the object of this Association shall be the study of all subjects pertaining to mental disease, including the care, treatment and promotion of the best interests of the insane."

It has four classes of members: (1) Active, (2) Associate, (3) Honorary, and (4) Corresponding.

The officers of the Association are: A President, Vice President, Secretary and Treasurer, two Auditors, and twelve other members of the Association to be called Councillors, and all of these officers together shall constitute a body which shall be known as the Council. The Council is clothed with large powers. It is authorized to manage all the affairs of the Association, subject to the constitution and by-laws; to appoint committees; to spend money out of surplus funds for special scientific investigations in matters pertaining to the objects of the Association; and to publish reports of such scientific investigations. It may also engage in the regular publication of reports, papers, transactions and other matters, in an annual volume, or in a journal, in such manner and at such time as the Council may determine, with the approval of the Association.

To Dr. Andrews came the honor of presiding at the meeting at which this important re-organization was effected. He was

thus the transition-president. For the ensuing year the Committee on Nominations submitted the following names for the officers of the Association:

For President, Dr. Bryce, of Alabama.

For Vice President, Dr. Curwen, of Pennsylvania.

For Secretary, Dr. Hurd, of Maryland.

For Auditors, Dr. Dewey, of Illinois, and Dr. Charles K. Clarke, of Kingston, Ont.

For Councillors, to hold office for three years, Dr. Cowles, of Massachusetts, Dr. Callender, of Tennessee, Dr. Godding, of the District of Columbia, Dr. Palmer, of Michigan.

For Councillors, to hold office for two years, Dr. Stearns, of Connecticut, Dr. Hill, of Maryland, Dr. Brush, of Maryland, and Dr. Blumer, of New York.

For Councillors, to hold office for one year, Dr. Hill, of Iowa, Dr. Miller, of North Carolina, Dr. Wise, of New York, and Dr. Fisher, of Massachusetts.

All honor to the Committee on Re-organization, of which Dr. H. P. Stearns was chairman; all praise to the sub-committee upon whom the work of drafting the new constitution and by-laws immediately devolved! Above all, *laus Deo!*

THE HEALTH OF DR. BRYCE.—It is with regret that we have to announce that the President of the American Medico-Psychological Association for 1893, is still in poor health. As we go to press we learn that Dr. Bryce is unable to leave his room. He seems to be suffering from obstinate indigestion, attended by extreme emaciation and debility, these symptoms having, it is said, a renal origin. While his bodily strength has waned, it is some solace to be told that his mind is as clear and active as ever. He shows no diminution in his zeal for the progress of the great hospital over which he so ably presides, and he still directs most of its affairs. Every reader of this journal, knowing the value of Dr. Bryce's life, will hope most fervently that an end will soon be put to anxiety by a speedy issue out of painful illness into steady convalescence.

THE CENTENARY OF YORK RETREAT.—As announced elsewhere in this journal, the Centenary of the York Retreat will

be celebrated by holding the annual meeting of the Medico-Psychological Association at that place.

In this connection the following official greeting has been sent by the American Medico-Psychological Association:

BUFFALO STATE HOSPITAL, BUFFALO, N. Y., July 7, 1892.

To the President of the British Medico-Psychological Association;

SIR—We take the occasion of the Centennial of the York Retreat, in behalf of the American Medico-Psychological Association, formerly the Association of Medical Superintendents of American Institutions for the Insane, to express the indebtedness of the alienists of America to the York Retreat, and to the pioneer work of its founder in bringing about the improved treatment of the insane. The reform in the treatment of this unfortunate class, inaugurated by the establishment of this institution, and the principles confirmed by its experience, have gone forth to their beneficent work for successive generations to every land where the English tongue is spoken or English thought dominates public sentiment. The importance of this work has had fresh emphasis during the past ten years in America, where the methods of managing insane patients have been practically revolutionized by discarding mechanical restraint and promoting the employment of every class of insane patients. Many officers of American institutions for the care of the insane felt renewed courage to undertake these reforms after visiting the York Retreat and observing personally what had been accomplished there.

It should be a matter of congratulation to the descendants of William Tuke that the good work which he began one hundred years ago has been increasingly effective year by year since. Kindness, tact and employment seem very simple means to accomplish such wide-reaching results, but they have proven more effective in the management of the insane than the sterner measures formerly in use. The physicians of America engaged in the treatment of the insane, beg to join with the British Medico-Psychological Association in doing honor to the memory of those pioneers in the humane treatment of the insane who bore the name of Tuke.

With great respect we remain,

J. B. ANDREWS, *President.*

H. M. HURD, *Secretary.*

CIVIL SERVICE EXAMINATION.—An open competitive examination of candidates for Junior Assistant and Female Physicians, to fill vacancies in the medical staffs of the several State Hospitals, will be held at rooms of the Civil Service Commission in Albany, August 24th, 1892. Salary of Junior Assistants, $1,400 and board; Female Physicians, $1,200 and board. For further information apply by mail to Clarence B. Angle, Secretary, Albany, N. Y.

CORRESPONDENCE.

THE BODILY CONDITION AND BRAIN DEVELOPMENT OF CHILDREN.

PARIS, June, 1892.

To the Editor of the American Journal of Insanity, Utica, N. Y.

Dear Sir: It is a very good idea, as one learns from experience, to sharpen one's wits by going away from home, and learning what other people are doing, especially if they are doing a good deal, and after a different fashion from your own.

I have been convinced of this since coming over to England and the Continent, where I find some of the medical men I have seen spending considerable time on the scientific side of the work, and perhaps all of them interested in some details that have not met my attention.

The most valuable and far-reaching investigation in England, to which my notice was directed, was that which has been conducted under the direction of Dr. Francis Warner, the well known psychologist and neurologist, upon "The Bodily Condition and Brain Development of Children," in certain of the public schools, chiefly in London.

Fifty thousand children have so far been examined, forty-five thousand within ten months, and all personally by Dr. Warner, which has meant an immense amount of work, as one can readily see by glancing through the "Interim Report" already published, and which you may have seen, but with which I was not familiar. A full report by the local committee has been prepared, and the English government, like our own, seems to be slow in granting the necessary funds to publish it.

To those who have not seen an analysis of the "Interim Report," it will be of great interest to know something of the work, and I will therefore briefly give a short account of it.

Dr. Warner did not examine each and every child separately, but had all the children come before him in long lines. He would then have them look at a shilling or the end of a pencil, to fix the eyes. "The trained observer," Dr. Warner says, "can read off the physiognomy of the individual features and their parts, the facial action and expression, the eye movements,

the balance of the head and body, etc., as quickly as a printed line. The children are then asked to hold their hands straight out in front of them, with the palms towards the floor, and for a moment the action is done before them. Then as a further indication of the nerve-system, their action and balance are noted. Finally the palate is inspected in each case. At each of these stages in the inquiry, children that present deviation from the normal standard are asked to wait with the teacher. * * * The re-examination now follows. Each selected child is examined individually. * * * As a rule no questions are asked. The teachers' reports of mental status are entered by them afterwards. * * * All abnormal conditions which are observed are recorded. But it must be distinctly understood that a single abnormal condition as an isolated fact, has not in any instance been taken as sufficient evidence of abnormality. Thus, for instance, a child who had a defective palate might, of course, be mentally bright, and would not, therefore, be marked down as abnormal." There are twenty-six tables of figures given in the "Interim Report," which are far from giving an accurate idea of the careful and elaborate tables in the full report.

The principle of correlation is largely adopted. That is, the relative value of the signs recorded in the tables. Table XXIII, for instance, is a summary of "All Schools. Defects in Development in Co-relation with Abnormal Nerve-signs," "Low Nutrition" and "Mental Dulness, as reported by the Teacher." In 5,851 of the children there were defects in development, and in 3,071 of these, there were "abnormal nerve signs;" 1,459 were classed as of "low nutrition," and 2,326 as "mentally dull." In 2,576 there were "cranial abnormalities;" 1,381 of these presented "abnormal nerve signs;" 872 low nutrition and 1,111 mental dulness. The "palate was defective" in 1,331, 703 of these showing "abnormal nerve-signs;" 328 "low nutritrition" and 556 "mental dulness." There were "defects of external ear" in 1,315; 694 of these showing "abnormal nerve-signs;" 268 "low nutrition" and 443 "mental dulness." "Epicanthis" was present in 898; 387 of these cases showing "abnormal nerve-signs," 138 "low nutrition," and 328 "mental dulness." "Other defects of development" presented themselves in 1,553 cases; 910 showing "abnormal nerve-signs," 361 "low nutrition," 646 "mental dulness."

This resumé of one table will give some idea of how the figures came out and in what ways they may be useful. If certain physical defects, for instance, show themselves in such an important ratio to mental dulness, there must be some connection between them, and if there is, the question must arise at once: Are the conditions under which these children are educated, from a hygienic and physical point of view, what they should be?

This is a very old question, easy to ask, but not easy to answer in a sufficiently striking and convincing way to stir our school boards to more scientific methods of education; but if anything can do it, I am sure it will be the conclusion which will be ultimately published in the full report of Dr. Warner's committee.

Other points of interest came out in these tables. They will help to establish types of general defective development in children, which so far have not been definite enough. It would be of much assistance in assigning children to their proper place in school if they could undergo such an examination as Dr. Warner made of his fifty thousand.

But, so far, we may say, the groups of signs to be looked for, and their relative value have not been clearly enough understood. Our educators, I have reason to fear, do not begin to appreciate how much more attention should be paid to the physiological side of education. The mentally bright and the mentally dull are drawn through the same knot-hole, the dull ones sticking in the middle, and their teachers being never the wiser.

From Dr. Warner's figures it would seem to be necessary to go so far as to have lower grade schools for children presenting certain groups of signs. If educated on the right principles, no doubt many of these children would in time catch up with those better endowed in the beginning.

There are other points which come out in Dr. Warner's investigation, but I can refer to only one, and that is the question of the shape of the palate. From investigations which I have been making on idiots'* palates during the last two years, I am certain that the most correct percentages as to the shape and size of the palates can be made from casts. But, nevertheless, taking estimates made by mouth observation, we find Dr. Warner giving us about two and one-third per cent of abnormal palates, while Dr. Clouston gets fifty-nine and five-tenths per cent.

* Developmental Neuroses.

There is such a wide discrepancy in these results that we hardly know which estimate to adopt. Dr. Clouston's cases numbered 604, but being in part casts, he may have made a pretty exact estimate. On the other hand, the palate being difficult to see and gauge accurately, Dr. Warner's estimate may have been less exact, as he presumably gave a quick look into the mouth. After all it will be seen the personal equation comes unavoidedly into such an estimate, as each man has his own ideas of what a normal and what an abnormal palate is. It is partly for this very reason that I think we must rely chiefly upon casts, which can be examined by ourselves at our leisure and criticized by others, to determine the shape of the palate.

In America we have as yet no standard for the normal palate. The dentists I have talked with are of the opinion that there is very great diversity of shape. Dr. Norman Kingsley thinks that the shape varies to a large degree with the shape of the head. If the head is that of a broad, thick-set person, with a big, broad head, the palate will be comparatively broad and low, whereas that of a thin, tall person with narrow head diameters will have a correspondingly narrow palate.

Dr. Warner very kindly gave me a number of data from his as yet unpublished tables, which will help to throw some light on the relationship of the abnormally narrow and high palate to other defects, but I cannot refer to them here.

He hopes to have ready the returns from one hundred thousand cases more in time to present them to the international congress in 1894, but he thinks five hundred thousand children should be examined before the investigation can be regarded as having reached its maximum degree of completeness.

We have an American member on this committee, and he may be working along the same lines already so successfully traveled by Dr. Warner. In such a country as ours, so much of it new, we are in the utmost need of learning any lessons we can which will place our public schools on a better sanitary or physical basis, and surely here is a chance.

While in London, Dr. Savage very kindly asked me to go to one of his clinical lectures at Bethlem Hospital. He has two didactic lectures at Guy's Hospital and two clinics at Bethlem weekly. As students are now obliged to pass an examination in mental diseases, as part of their five years' course, the lecturer

would be sure to have some students to hear him, but Dr. Savage is so instructive and agreeable in his remarks that he is certain of a large following. The day I heard him there were thirty-three present, which crowded the small parlor, or end of the ward, where we saw the patients.

His subject was "Melancholia," and he gave a vivid picture of some of the varieties. He first examined the patient with the aid of a case-book, getting at the subjective symptoms. Then he considered the physical symptoms and showed how the different groups were allied. Afterward he discussed the type of disease in general, illustrating the subject by cases from his experience. One of the patients happened to be a widow, worn out by devotion to her husband through a long illness, and Dr. Savage said he was in the habit of recognizing a "widow" form of melancholia.

I asked Dr. Savage if it did not disturb and excite the patients to have so many students coming into the wards and examining them. He said that it did not, but was rather a good thing for them to feel that so much attention was being paid to them.

I also asked him if they were going to build a new hospital further out in the country. He said he should certainly oppose any such change, for what was needed was a hospital near the medical schools, which could be used for purposes of clinical instruction. The students could not afford to take a half day to visit a lunatic hospital in some remote section.

I was especially glad to hear Dr. Savage's lecture, for I was encouraged to believe, what I sometimes doubt, that students can really be taught that there are as definite forms of mental disease as of other diseases. The literature of insanity, while very useful for the experienced alienist, has been deficient in those data of a practical character which impress the student with the feeling that something can be learned from books.

Such men as Drs. Savage and Clouston seem to be peculiarly fitted to supplement the existing and very excellent text-books with data of a clinical character.

Before closing I wish to refer to a paper by Dr. Savage which I heard him read at a quarterly meeting of the British Medico-Psychological Society, on "Influenza and Insanity."

The epidemic of influenza during the last year seems to have been more severe in England than with us. Dr. Savage has

found many forms of nervous trouble following as a sequel, and in several persons, perhaps predisposed, insanity had arisen. In a number of cases a form had developed which was apparently true general paralysis. Several cases, it was stated in the discussion, had been admitted into Bethlem which were of this character.

I only allude to the subject here, as no doubt your readers will see the paper in a future number of the *Journal of Mental Science*.

I also learned when I was at Gheel last week that the influenza had been quite severe and fatal in a number of cases there.

I will now close, leaving several interesting matters untouched, trusting that I have not trespassed too much on your space.

Yours very truly,

WALTER CHANNING.

THE DISPOSAL OF SEWAGE FROM ISOLATED COUNTRY HOUSES.

G. Alder Blumer, M. D., Editor of the American Journal of Insanity, Utica, N. Y.

Dear Sir:—My attention has only recently been called to the April volume of your Journal in which you do me the honor to review favorably my pamphlet on "The Disposal of Sewage from Isolated Country Houses."

Your reviewer, however, states that one point in my paper is open to criticism, viz: That in the diagram illustrating incidentally the plumbing of a dwelling, the waste from wash-bowl and bath-tub appear to be connected with the soil-pipe, and he maintains "the only safe and sound plan is to arrange the waste-pipes from bowls, bath-tubs and sinks so that they shall never be directly connected with the soil-pipe, but shall independently empty outside the house into a gully trap."

In reply to this criticism I beg to state that your reviewer evidently has in mind the English system of plumbing work, wherein such a separation is carried out. In the climate of the United States a discharge of waste pipes from basins, bath-tubs or sinks over an outside gully is impracticable and inadmissible, owing to the danger of freezing.

In American plumbing practice the soil-pipe for the water closets in the house almost invariably receives other branch waste pipes, from bath-tubs, wash-basins, sinks, etc., and this is considered a perfectly safe practice, *provided* the soil and waste-pipes are made of extra heavy cast iron, and the joints tested under water pressure, and *provided* the fixtures are well and safely trapped, so that there may not exist any danger of leakage of sewer air through defective joints, or through the traps being liable to siphonage or back pressure.

I refer you, in order to confirm my statements, to the plumbing rules and regulations of our large cities, notably those of New York City, Brooklyn, Philadelphia, Chicago, Boston and Washington. In all of these the soil-pipe may receive the flow, not only from water closets, but from adjacent fixtures in bath-rooms as well.

In the new Asylum for Insane Criminals of the State of New York, and at the St. Lawrence State Hospital at Ogdensburg,

the drainage and plumbing of which institutions were under my immediate charge, the soil-pipes for water closets receive in many cases the wastes from basins and bath-tubs, and yet the system is perfectly free from any escape of sewer air.

By inserting the above correction into the next issue of your valuable journal, you would much oblige.

Yours very respectfully,

WM. PAUL GERHARD,
Consulting Engineer for Sanitary Works.

New York City, June 27th, 1892.

[Mr. Gerhard's objection to the criticism, in the April number, of the review of which he complains is reasonable and consistent in so far as it applies to localities where climatic disabilities make it impracticable to adopt the outside gully system. But the fact that the plumbing regulations, in the cities named by Mr. Gerhard,—all of which labor under the climatic disadvantages to which he refers,—permit the flow into the soil-pipe not only of water closets but of bath-tubs and adjacent fixtures, is no proof that under different climatic conditions such practice is either the safest or the best.

On the contrary, Mr. Gerhard's own statement that "this practice is perfectly safe *provided* the waste pipes are made of extra heavy cast iron, and the joints tested under water pressure, and *provided* the fixtures are well and safely trapped," is the strongest argument he could have adduced in favor of a system which, to say the least of it, minimises the risk of sewer gas.

No doubt, under the expert supervision of Mr. Gerhard, all possible safeguards would be conscientiously attended to. But the ordinary citizen, as a rule, has to deal with the average architect and the careless plumber. Of the shortcomings of either one or the other of these, we venture to say that if Mr. Gerhard told all he knew "he could a tale unfold."—*Reviewer.*]

HALF-YEARLY SUMMARY.

ALABAMA.—Dr. Bryce sends to the Summary the following interesting account of improvements at the Alabama Insane Hospital:

"I believe it was in the January "Half-yearly Summary" of your journal that a notice appeared of our purchase of a farm of 750 acres of river and pasture land lying two miles north of the Alabama Insane Hospital. Since then we have enclosed this entire tract with a wire fence, and have erected thereon a frame building on the open corridor system, capable of accommodating thirty able-bodied male patients. Just off the open corridor there are a few rooms for the private use of the attendants, and a few patients who may become disturbed at any time and need to be retired. This building has also a kitchen and dining-room attached to it (these are in fact a part of it) sufficient to provide for the patients and nurses.

"We have also just erected near this building a large hill-side barn, in the basement of which is room to house one hundred head of beef cattle and any number of sheep and goats, with stables for a dozen farm horses. We have sent up from the hospital thirty able-bodied male negro patients of the industrious and quiet class, with three nurses to look after them and to assist them with the work of the farm. Two hundred acres of choice river land have already been fertilized and planted in farm and garden truck, and the yield promises to be enormous. This is one of the grandest industrial experiments that has yet been tried by this hospital, and will reduce the expense of supporting the institution very materially.

"We have just commenced the erection of a residence for the superintendent of the hospital and his family, which will be located on the lawn in front of the present building, and near enough to receive its supply of water, gas and steam from the main pipes, and to be accessible to the building. It will cost between fifteen and twenty thousand dollars when completed, and what is of more importance, will be paid for out of the funds saved from the allowance of$2.25 for each patient per week, without asking for any special appropriation from the State.

"The entire system of sewer ventilation by the introduction of new and improved water traps back vented into pipes through which fresh air is drawn, has been erected throughout the establishment, rendering the institution perfectly safe and sanitary; and we are introducing one and a half inch water-hose ready connected to the water pipes, into every ward of the hospital, so that a fire can be extinguished by a nurse in a moment's time without unnecessary alarm."

CALIFORNIA.—The new asylums at Ukiah and San Bernardino are being rapidly pushed to completion. It is believed that both asylums will be ready for occupancy early in the next year. Sites have been selected with special reference to drainage and water supply, and with these requisites have been combined beautiful scenery and salubrious mountain air.

—Cooper Medical College, one of the leading educational institutions of the Pacific Coast, has taken a step in advance and has now regularly established a chair on mental disease. It is to be especially congratulated on securing for this chair Dr. Gardner, superintendent of the Napa Asylum, who has a reputation as a brilliant teacher and worker in this field.

—The *Occidental Medical Times*, a representative medical journal, is devoting much space and is energetically uncovering the abuses existing in the present method of examining and committing the insane. An able editorial on "The Need for Improvement in the Examination of Persons Charged with Being Insane," has called forth letters from several asylum superintendents, and will undoubtedly result in the accomplishment of a much needed reform. From time to time commitment blanks have been prepared with the questions so framed that an intelligent and painstaking physician could satisfactorily state his reasons for regarding the patient insane. At a recent meeting of the asylum superintendents a blank with such explicit questions has been adopted that even a layman, thoroughly acquainted with the facts and history leading to the imputation of insanity, could make a satisfactory report. It is believed that in this way reliable facts and valuable statistics will be gained, and that the slovenly answers now often returned will be so amended as to give the asylum physicians the much desired information regarding both predisposing and existing causes of insanity.

—Dr. Leo Newmark has been chosen for the professorship of neurology in the recently organized post-graduate course of the medical department of the University of California. The choice was eminently judicious, and will add greatly to the strength of the chair of nervous and mental diseases already existing in the University.

INDIANA.—The new laundry for the Central Indiana Hospital has been finished and equipped with the latest and most approved machinery. An electric light plant has been installed at a cost of $36,000, and is now in operation.

—The census of the hospital at Evansville is 394. Landscape gardening progresses rapidly, and the garden yields more than enough to supply the household. A new railway passenger station is to be erected on the grounds.

IOWA.—There are in this State ninety-nine counties, twenty-six of which are tributary to the hospital at Mt. Pleasant, twenty-eight tributary to the hospital at Clarinda, and forty-five counties, extending across the north end of the State, to the hospital at Independence. At the present time there are about 400 patients in the hospital at Clarinda, about 900 in the hospital at Mt. Pleasant, and 835 patients at Independence. There will be no farther enlargement of the State hospitals during the next two years.

—At the new hospital at Clarinda the enbarrassment of excessive crowding has been partially reduced by the equipment of basements for associate dining purposes, and the conversion of dining-rooms and rear-centre corridors into

wards. The change has proved economical and beneficial. The new boiler-room, accommodating five boilers, is in successful operation, supplying the wards by both indirect and direct radiation, the former system proving sufficient except in the coldest weather. Furnishing and interior decoration progress rapidly. Uniforms for attendants have been adopted.

—The last legislature appropriated $8,000 for an electric light plant for the hospital at Independence. A conservatory is in process of erection.

KANSAS.—The State of Kansas, by a constitutional provision, assumes the care of the defective classes, but in common with most of the States, the asylum accommodations are inadequate.

The asylum at Topeka provides for an average of about 750 patients, and the one at Osawatomie for about 515. The insane in the State exceed the capacity of the institutions by about 600. These are scattered among families, jails, county poor-houses, and a class of "private asylums," which have sprung up and offer to care for such chronic and incurable cases as are refused admission for want of room or are discharged from the asylums to make room for acute cases.

There are six or more of these so-called "private asylums" in the State, only one of which is conducted by a medical man. In this instance the Probate Judge of one of the most populous counties, which had a large number of chronic insane to provide for, interested the county physician in the matter, and induced him to open an "asylum" for this class of patients. Although this physician had no experience in the care of the insane, his patients are reasonably comfortable, and are far better situated than they would be in the county jails. Your correspondent has less knowledge of the other places of this kind, but the system has nothing commendable about it, except the keeping of these patients out of the jails.

—A small appropriation was made by the last legislature for a detached building at Osawatomie, which will accommodate about 250 patients, and will probably be ready for occupancy in a few weeks. But this will be inadequate, and the Superintendents and Board of Trustees will doubtless, for the fourth time, recommend to the legislature the erection of a new institution at some convenient point toward the western part of the State, as both the present asylums are comparatively near the eastern boundary.

LOUISIANA.—At the State Insane Asylum at Jackson three three-story brick buildings, with capacity of about one hundred patients each, have been erected. An operative building, subserving the four-fold purpose of boiler-house, machine-shop, laundry and drying-room, dynamo, pump and well-house, has also been erected. Two frame buildings for colored patients have been moved to the rear, remodeled, enlarged and renovated. Many improvements for the administrative efficiency of the institution have been made.

MARYLAND.—Last winter the Maryland legislature passed a bill providing for the construction of a new State hospital for the insane. Although only four votes were cast against the bill, the governor failed to approve it, and

hence the present condition of overcrowding in all the public and private asylums in the State must continue.

—The State Lunacy Commission met with a serious loss in the death of Dr. Alex. H. Bailey, its president. The governor has not yet made an appointment to fill the vacancy.

—During the Spring the superintendent of the hospital at Catonsville has been giving clinical lectures to small classes of students from the College of Physicians and Surgeons in Baltimore. With the insane wards in Bay View and in this hospital open to students, the reproach that no clinical instruction in psychiatry is given, is removed, so far at least as the Baltimore medical schools are concerned.

A new ward for paralytic dements is under construction, to accommodate from sixteen to twenty patients, and partly relieve the overcrowding in the main building. Other recent improvements in this hospital are the building of two general refectories with covered corridors to the wings, the remodeling of the kitchen, and the fitting up of one of the female wards as an infirmary. Plans are also being drawn for a comprehensive house-drainage system, which is now lacking.

MASSACHUSETTS.—The new dormitory for men at Austin Farm is about ready for occupancy. The sum of $127,000 has been appropriated to complete the plan for an asylum for the chronic insane at this place. This will provide three new pavilions, with a chapel, amusement hall and associate dining room in one, and a new boiler house and electric light plant. The asylum will then accommodate 600 patients.

MICHIGAN.—Early in June, the senior class of the medical department of the University of Michigan visited the Michigan asylum.

—The portion of the Eastern Michigan asylum destroyed by fire on the 26th of last December has been so far rebuilt that all of the halls are now occupied by patients. Important alterations have been made in the admistration building, making it much more convenient for all purposes. A fire-proof room opening into the medical and steward's offices has been constructed for the preservation of records. Greater precautions have been taken to prevent the spread of fire. This portion of the building will be completed about the first of September.

MINNESOTA.—A quarterly magazine, entitled the *Hospital Bulletin*, is issued by the medical staff of the Second Minnesota Hospital at Rochester. Original articles, clinical reports, notes on current topics and editorial references to events of interest, comprise the classification of contents and scope of the publication.

—On April 28 occurred the first commencement of the Rochester training school for nurses. Nine women and four men were graduated. Diplomas were awarded to the graduates by the president of the Board of Trustees, Major A. L. Sackett, and addresses were made by members of the Board of Trustees, the mayor of the city and others.

—The census of the hospital is 1,100.

—On June 1st, Dr. Robert M. Phelps, first assistant physician, and Dr. Sarah V. Linton, also an assistant, were united in marriage at Andrew Presbyterian church, Minneapolis. They will continue in their work at the hospital.

—The hospital at Fergus Falls is ready to receive about one hundred more patients, who will be transferred there from the St. Peter Hospital. Fifty men will be transferred from the Rochester Hospital to St. Peter's, thus relieving the overcrowded condition of the former institution.

MISSISSIPPI.—The main building of the State Asylum at Jackson was set on fire about five o'clock in the morning of February 16th last, by a patient. There were about six hundred inmates, all of whom, except the incendiary, were safely removed. The building was of brick and had a frontage of about five hundred feet. The loss has been estimated at $200,000.

NEW HAMPSHIRE.—Early in the spring the trustees received twenty-five acres additional of land adjoining the State Asylum at Lake Penacook, distant four miles from the asylum proper. A temporary house for a party of workingmen was erected, and a man and his wife placed in charge. The summer cottage itself was opened on the 12th of April. The work of developing the grounds about the cottage was resumed at that time. At present twelve men and thirteen women are living at the two buildings by the lake. The Asylum now owns fifty acres at this delightful place. The beneficial effects resulting from change of scene, freedom from restraint and the pleasant family life at the cottage, are realized every day.

The third class in the Training School graduated in June. The success of the school, both in furnishing superior nurses for the asylum, as well as for the public needs outside of the asylum, is now fully established. Not the least of the desirable results accruing from the Asylum Training School is this new relationship established between the asylum itself and the general public. The latter are inspired with new confidence in the former as they acquire familiarity with the character of the service and the remedial measures employed by the asylum in the care of its patients.

NEW JERSEY.—Graduating exercises of the fifth class of the Training School of the Essex County Asylum were held with public ceremonies, on the evening of June 22d last. Nine nurses received certificates.

During the last year many interior improvements have been made. The laundry, kitchen and bakery have been removed to a new annex building, and workshops have been constructed, which afford employment in tailoring, mattress-making, shoe-repairing and cabinet work. The project of a Day School for patients is urged by Dr. Hinckley.

NEW YORK.—The report of the State Board of Charities shows that the number of disabled alien paupers returned to their homes in Europe last year was 173. Of these 34 had been sent to this country by municipal officers, 67 by relatives or guardians, and 49 by immigration or benevolent societies.

—The transfer of patients from county alms houses to State Hospitals is being pushed by the Commission in Lunacy as rapidly as accommodations in the latter are provided. The number remaining in county institutions has been reduced to about one thousand.

—The Bloomingdale Asylum in New York City, which was established in its present locality in 1821, has been sold to Columbia College, and the venerable structure will probably be the nucleus around which modern and handsome buildings for the permanent use of this college will be erected.

—The New York Hospital was the first institution in this State to specially care for the insane. As early as 1797 insane patients were cared for in the basement rooms of the old hospital buildings on Broadway, between Duane and Worth streets. In 1808 the insane patients were transferred from the basement of the main hospital to a pavilion erected in the grounds of the hospital for their use; and the occupation of the present Bloomingdale Asylum in 1821 was the third step, which the growing enlightenment and sympathy for these unfortunates led the society to make in their behalf.

—It is expected that a fourth transfer of the patients in the insane department of the New York Hospital will be made in 1894 to a new institution, and one more in accordance with modern ideas than the present Bloomingdale Asylum. The site of the new institution is at White Plains, twenty miles from the city, on the Harlem Railroad, where work upon the buildings has already begun. The ground is elevated, and commands a wide inland view; the buildings will be handsome separate pavilions, connected by corridors, with accommodations for about four hundred patients, and occupying a nearly central position in a park of about three hundred acres, where future demands for extended, or more varied accommodations for the well-to-do, or partially dependent insane of the region about New York City, may be readily provided.

—Six associate dining rooms have been completed at the main hospital building of the Willard Hospital, and are in use.

The new Assembly Hall is in process of erection and will have a seating capacity of 1,013.

—The graduating exercises of the Training School of the Buffalo State Hospital were held on the 27th of May. The programme was brief, consisting of an address to the class by the superintendent of the hospital and of some remarks by Hon. D. H. McMillan, President of the Board of Managers, on presenting the diplomas.

In January last Miss Adella Fay, an instructor of physical exercise in the Public Schools of Buffalo, was engaged to give lessons to the women attendants and patients. This work has been continued with benefit to all who have received instruction. The method is that of Ling, known as "Swedish Physical Exercises," and has been employed at the McLean Asylum and at Dr. Channing's Institution in Boston. The sucesss is quite marked in arousing even in some of the demented patients an increased degree of mental activity and of muscular control. After receiving the lessons the attendants repeat them on the different wards to the patients, and thus keep up the interest in the intervals. It is believed that this system will prove a valuable aid

in promoting the health and vigor, both mental and physical, of a large class of the insane, and furnishes necessary exercise when, from the state of the weather, it is impossible to send the household out of doors.

—During the past six months the industrial interests of the Binghamton State Hospital have been cared for and extended. A large, well lighted shop has been provided for the tailoring department, in which the sewing machines are driven by an electric motor, the current being obtained from the adjacent electric car line. This shop will provide ample facilities for the manufacture of nearly all the garments worn by the patients in the institution. In another large shop adjoining the tailor's shop the hospital is now manufacturing all the mattresses and pillows used on the wards, the various kinds of brushes used for scrubbing and polishing the floors, the cane seats for chairs, and is doing high class work in upholstering furniture.

The two new buildings erected under the provisions of Chapter 91 of the Laws of 1891 have been completed within the appropriation of $550 per capita, and are now ready to receive 130 patients. Both will be occupied by women, twenty-five of whom have been ordered by the State Commission in Lunacy transferred from Willard to this hospital.

During the past winter a new steam-line was erected from the boiler-house on the river bank to the hospital buildings, a distance of more than 3,000 feet. This line takes the place of the old one, which had become defective and unsafe in many places. Through the new line steam is supplied for heating all the buildings occupied by the patients, and, also, for cooking purposes.

Improvements about the hospital grounds are steadily progressing along the lines laid down by the late superintendent, and large numbers of male patients are daily employed at this work. It is expected that a broad avenue leading from the hospital to the city will be completed this season. The hospital now contains 1,125 patients.

—The commission created by the Legislature to provide additional accommodations and lands for the State Asylum for Insane Criminals at Auburn have completed the work for which they were appointed. The Commission, consisting of the President of the State Commission in Lunacy, the Comptroller and the Medical Superintendent at Auburn, came into existence by act of the Legislature in 1886, though no appropriation was made until the following year. On the first of April, 1892, the buildings at Matteawan were transferred by the Commission to the custody of the Superintendent of Prisons and by him formally accepted. Provision had previously been made for the transfer of the inmates at Auburn, but the actual removal did not occur until the twenty-fifth of April. The change was made without accident of any character, and within a period of five days the patients were all safely domiciled in their new home. Soon after the opening of the new asylum a large number of patients were received from the various State Hospitals who had been committed thereto from the courts, and had been held awaiting the completion of the new asylum in order to be thus transferred. The total number now present in the State Asylum for Insane Criminals is 333.

The location of the asylum is a beautiful one, situated just at the entrance

to the highlands of the Hudson River and commanding a most charming prospect. The buildings are large and admirably adapted to the purpose for which they were erected, and are very cheerful and pleasant, and provided with every modern convenience and appliance for the proper care and treatment of the insane. Situated in the midst of a large farm upon a broad hill-top, the outlook is extensive in every direction.

It is the purpose of the institution to receive both convicted and unconvicted cases. A very large proportion of the former are undoubtedly insane before and at the time of trial, and are unsuited for the discipline of general institutions. They need the care of a hospital for the insane. The unconvicted patients will be received directly from the courts, to whose custody they will be returned upon recovery. The majority of the population consists of such cases, and their number will undoubtedly largely increase.

—Construction and organization at the St. Lawrence State Hospital have progressed with usual rapidity. The two observation cottages, providing for seventy of each sex have been occupied. A temporary farm cottage has been provided by utilizing one of the former farm houses, with accommodation for twelve male patients. Work on enclosing the convalescent cottage for women, and for finishing group No. 3 for 400 women patients, has begun. A horse and carriage barn is nearly completed. With the completion of buildings now in progress there will be accommodation for one thousand patients.

—The joint meeting of the Managers of the State Hospitals for the Insane will be held at the Hudson River State Hospital, at Poughkeepsie, September 29th, 1892.

—At the Syracuse State Institution for Feeble Minded Children additional dormitory space has been obtained by the removal of partitions and stationary wardrobes, and other interior reconstruction has afforded increased dining-room capacity. Two new hot houses have been built, and an elevated band-stand, octagonal in form, twenty-four feet in diameter, with a roof supporting a forty foot flag staff from its summit, has been erected near the building for boys. Nearly all of the work has been accomplished by the carpenter of the institution, assisted by pupils, who have also kept up the repairs and manufactured furniture.

—Work on the new group of infirmary buildings at the Utica State Hospital is nearly completed. A portion of it is already occupied at night by 65 patients, and it is expected that the entire group will be ready for use in a few weeks.

A new fire-proof staircase, providing exit from five wards of the male department, has been constructed, and as a further means of protection against fire fire-walls are being built throughout the attics.

Contracts have been let for the construction of three congregate dining-rooms in the male division.

The water supply of the hospital has been still further increased by the substitution of ten inch pipe for the old six inch pipe.

By the will of the late Russell Hazzard, of Madison, the sum of one thousand dollars has been bequeathed to the hospital.

NORTH CAROLINA.—The congregate dining-room which is in course of construction at the Hospital at Morganton, is approaching completion. The dining-room is on the first floor; the second story being used for patients. It will accommodate thirty. The building is 50 feet by 112. The cost was something less than $12,000. In addition to the thirty patients who can be accommodated on the first floor, forty will be provided for in the old dining-rooms, thus giving increased capacity for seventy patients.

OHIO.—A commission composod of Hon. George R. Davis and Drs. C. W. King and A. B. Richardson, is now engaged in selecting a site for an asylum to be located in the eastern part of the State. The Governor is authorized to appoint a Board of Trustees to prepare plans, and it is probable that the cottage plan or a combination of this with the pavilion plan, will be adopted.

—At the Cleveland Asylum electric fans and arc lights have been placed in the Amusement Hall. A Training School has been organized, and a course of lectures was delivered during the past season.

—The contracts for two more cottages for the Gallipolis Epileptic Asylum were recently let. This institution is intended to accommodate from one thousand to twelve hundred patients.

PENNSYLVANIA.—The following is the full report of the Committee on Lunacy to whom was referred the charges made against the Warren Hospital. The report was unanimously adopted by the Board of Public Charities, and sent to the Governor on the 2d instant:

PHILADELPHIA, June 1.

To the Board of Public Charities:

GENTLEMEN: On March 28, 1892, W. L. Peart, Esq., attorney at law, Kittanning, Pa., presented to the Governor, Robert E Pattison, a number of written charges of a grave nature against the Trustees, Medical Superintendent, officers and attendants of the State Hospital for the Insane at Warren, Pennsylvania. These charges were immediately transmitted by the Governor to your Board, and by you to this Committee, with a request that an investigation be made thereof, in accordance with lawful authority. Copies of all the papers and affidavits submitted by Mr. Peart were sent to the Trustees and Medical Superintendent of the Hospital, and notice was given to them and to Mr. Peart that the committee would meet at the Hospital at Warren, Pa., on Wednesday, April 27, 1892, at three o'clock P. M., to proceed with the investigation. Mr. Peart was requested to be present with such witnesses as he claimed would support the charges.

Subsequently, on April 12, 1892, the following communication was received from Mr. Peart:

"KITTANNING, Pa., April 11, 1892.

Henry M. Wetherill, M. D., Philadelphia, Pa.:

DEAR SIR: Your communication of the 7th, as Secretary of the Committee on Lunacy of the Board of Public Charities, notifying me of the time and place of meeting to investigate the charges made by me against the management of the Hospital for Insane at Warren, Pa., received.

You notify me to be present 'with evidence and witnesses in support of said charges.' The witnesses, by whose evidence I can support and fully establish the charges I have preferred, are scattered in different parts of the State. It is absolutely necessary that I have them subpœnaed to be present before the committee to give evidence, and if they do not appear, to have an attachment issued and compel them to appear and give evidence.

As I am the person who has preferred these charges, and in order that I may be prepared to fully prove them, I wish you to send me at once, a subpœna, so that I can have my witnesses present at the meeting of the committee of which you have just notified me.

If it is necessary by the rules of the committee that I should first give the names of the witnesses I will do so; or if the committee will have the witnesses subpœnaed I will send you a full list of names. I hope you will send me the subpœna at once, so that I can subpœna the witnesses without further delay. Respectfully,

(Signed) W. L. PEART."

To this communication the following reply was sent:

"PHILADELPHIA, April 13, 1892.

W. L. Peart, Esq., Attorney at Law, Kittanning, Pa.:

DEAR SIR: The Committee on Lunacy is in receipt of your communication of April 11th, requesting us to furnish you with a subpœna with which to compel the attendance of witnesses at the investigation of alleged abuses in the Warren Hospital for the Insane.

I have to advise you that neither the Board of Public Charities nor the Committee on Lunacy have any authority in law to compel the attendance of witnesses resident outside a public institution. We have, therefore, no subpœnas to furnish you, and you must depend entirely upon your own individual efforts to secure the attendance of witnesses who are not in the institution.

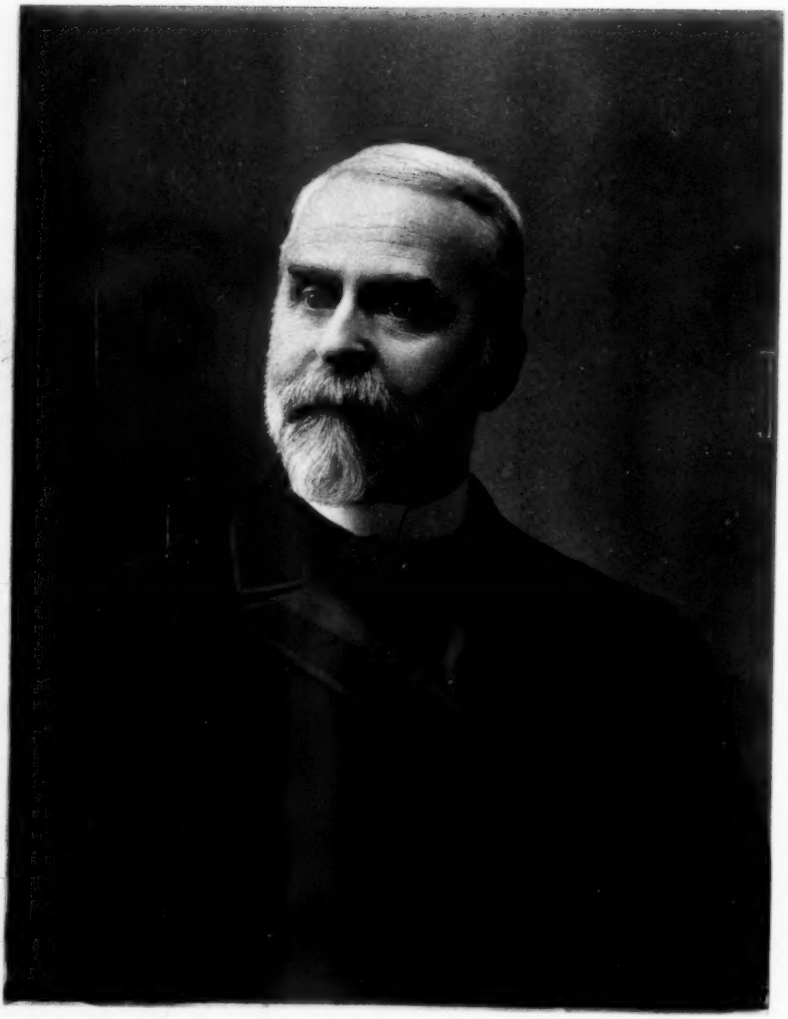
Such witnesses as are in the building, or are connected with the institution, will be required to give testimony, so far as the legal authority of our committee can be exercised in that behalf.

Yours very truly,

(Signed) THOMAS W. BARLOW,
Legal Member of the Committee."

On Wednesday, April 27, 1892, the meeting appointed for the purpose of making an investigation, was attended by the following members of the Committee on Lunacy and the Board of Public Charities: Dr. Thomas G. Morton, Dr. George I. McLeod, Thomas W. Barlow, James B. Scott, George W. Starr and Cadwalader Biddle. Dr. Henry M. Wetherill, Secretary of the Committee on Lunacy, was also present.

The committee convened at three o'clock, but neither Mr. Peart nor any of his witnesses appeared, nor was any communication received from him. A citizen who had made written charges against public officials, charges involving allegations of murder and other grave crimes and including gross abuse of patients, and neglect of duty on the part of officers and attendants, neither appeared at the meeting nor presented any apology or excuse for his absence and no word has been received from him since. The committee was thus left without accuser or witnesses to sustain the charges that Mr. Peart had



American Journal of Insanity, Utica, N. Y., October, 1892.

Yours Truly J. Draper

made. The Trustees and Medical Suprintendent and his assistants, however, were present and insisted upon the committee making the fullest inquiry into the management and conduct of the institution. The Superintendent and other officers were examined under oath, and the charges were then considered one by one and earnest effort was made to learn of the truth or falsity thereof, and every patient resident in the institution and involved in the charges, was interviewed personally and the committee pursued every avenue available to ascertain the truth.

The committee is of the opinion that Mr. Peart's charges are almost wholly false, libellous and defamatory. The small atoms of truth upon which his scandalous allegations are built are such incidents as are liable to occur in any hospital for the insane. It occasionally happens, under the wisest and most careful management, that patients strike each other, or in the efforts of attendants to restrain patients from injuring themselves, either one or both are hurt; but this is neither abuse nor outrage nor undue violence; it is an inevitable condition in the care and treatment of the insane, and its comparative infrequency is one of the results of modern humane hospital management.

Dr. Curwen has now over eight hundred patients under his care, and his familiarity with the personality of each patient and his knowledge and appreciation of the mental condition and peculiar needs of the inmates of his institution, indicate his thorough mastery of the situation of which he is the chief executive officer, and his assistants, Dr. Guth, Dr. Coulter and Dr. Hunter, are equally capable and efficient in their respective positions.

The members of the Board of Trustees of the Warren Hospital are known to the Committee on Lunacy to be attentive to their duties and they have been, moreover, ambitious to perfect the various departments of the institution on the lines suggested by the Board of Charities and the Committee on Lunacy, and they are properly careful to see for themselves personally that the treatment of the patients of the institution is humane and free from abuse.

It is but simple justice to say this of the management of this institution. It is the truth and should be plainly and clearly stated. The refutation of Mr. Peart's charges was full and complete and satisfactory to this committee and should be like satisfactory to the Board of Public Charities and to the public.

The charges now made and referred to the Board of Public Charities, were included in affidavits of parties who have been or still are insane or who were patients in the institution in past years. Most of the affidavits were but hearsay declarations, representing for the most part conversations with insane patients, and neither in form nor in substance acceptable in any proceeding in a court of justice. Notwithstanding these deficiencies, the Committee on Lunacy attended the Hospital at a time fixed of which Mr. Peart had three weeks' notice, and his absence and apparent indifference, under all circumstances, deserve and should receive public censure It is not sufficient for Mr. Peart to say that his absence was caused or justified by his failure to secure the attendance of witnesses by compulsory process. He is a practicing lawyer and is presumed to know the laws of the State. If he did not know, it was his duty to acquaint himself with the laws governing the investigation

of public institutions before he brought such serious charges against officials and attendants of this Hospital. His letter quoted above indicates his fear that witnesses would not appear in person except upon subpœna or attachment. A little industry on his part would have learned that the attendance of witnesses in such a proceeding could not be compelled.

He either ignorantly or wrongfully brought his charges first and asked for a process not authorized by law, subsequently. The allegations embraced by the affidavits of his witnesses are, however, refuted and they are now disposed of effectually.

If the Board of Public Charities or the Committee on Lunacy could have compelled the attendance of Mr. Peart and his witnesses, a more detailed investigation would have followed and the motives which prompted this unjustified attack upon a worthy public institution would have been more fully developed.

Respectfully submitted.

THOMAS G. MORTON, *Chairman*,
GEORGE I. MCLEOD,
THOMAS W. BARLOW,
HENRY M. BOIES,
CADWALADER BIDDLE,
JAMES B. SCOTT.

VIRGINIA.—The new female building, containing 100 beds, at the Western State Hospital, Staunton, is nearing completion, and will be ready for reception of patients about September 1st. When this building is occupied, the census of the Staunton Insane Hospital will be 820 beds.

—The Williamsburg Hospital will rebuild the department for women, burned a few years ago, at a cost of $12,000.

WASHINGTON.—The Eastern Washington Hospital for the Insane, which was opened a year ago, with accommodations for 180 patients, is now so overcrowded in the men's department that additions will be required very soon.

A new reservoir, with a capacity of 500,000 gallons, has been built on a hill just back of the hospital building. The reservoir is made of granite, lined with brick and covered with cement. It is capable of resisting immense pressure. Arrangements have been made to supply the town of Medical Lake with water from the reservoir, thus materially lessening the running expense of the plant.

A new brick store-house and ice-house have recently been built. A large barn has been erected, and enough milch cows to supply the hospital have been bought.

The stage in the chapel has been fitted up for theatrical performances under the direction of Stage Manager Quinn, of the Spokane Auditorium.

CANADA.—The Toronto Asylum is building a chapel, amusement hall and work-shop. The work is being largely done by patients, directed by two skilled masons and carpenters. The structure will be two stories in height,

constructed of white brick and stone facings. The size is eighty-five feet by forty-five feet.

—The Mimico Branch Asylum has now eleven cottages and 520 patients. These are all transfers from the other Provincial Asylums at Kingston, Toronto, Hamilton and London. They are chronic cases both of the quiet and disturbed classes.

—It has been decided not to build any more large asylums in Ontario, at least for the present, and to meet the demands for more accommodation a new hospital will be erected at Brockville. The site selected is a very fine one on the banks of the St. Lawrence. The buildings will be commenced at an early date, and, it is said, will embody the most modern ideas in the way of hospital construction. Possibly the fact that the magnificent asylum at Ogdensburg is just across the river will inspire the Canadians to friendly rivalry.

—The venerable Dr. Workman reached the age of eighty-seven in May. On his birthday about one hundred of his intimate friends wrote letters expressing good wishes. These letters were bound in one volume and placed on the doctor's table, and must have proved a pleasant surprise to the eminent alienist.

—A Royal Commission has been appointed to examine into the question of table supplies for assistants and superintendents. Ontario is notoriously the Province of economy, and although asylum officers receive very modest salaries, still there is an impression abroad, especially among the unthinking public, that asylum officials receive too much, and are made too comfortable. As the Commission is made up of men who are fair-minded and intelligent the chances are the investigation will result in an improved condition of affairs for the officers. The Commissioners are: M. J. Noxon, R. Christie and D. Chamberlain.

New Brunswick.—At the Provincial Lunatic Asylum at St. John, Dr. Steeves reports the building of a silo and new barns, the erection of a new boiler-house, equipped with a tubular boiler, and improvement in fire protection by the addition of a large steam pump for lifting water to an elevated cistern.

Nova Scotia.—At the Hospital for the Insane at Halifax, bacteriological examination of the atmosphere of the wards has resulted in practical benefit. Dr. Reid reports that a rough examination of Petri dishes containing gelatine and agar culture media, which were exposed in a few wards, revealed a tolerably pure condition of the air. The more common bacteria and moulds were present, and several colonies of micrococcus pyogenes aureus were found on an agar plate which had been exposed in a ward in which were several cases of furunculosis. Considerable attention has also been directed to the bacteriology of the various diseases with which the patients have been affected.

APPOINTMENTS AND RESIGNATIONS.

ANGLIN, JAMES V., formerly Assistant Physician at the Western Pennsylvania Hospital for the Insane, appointed Assistant Medical Superintendent of the Protestant Hospital for the Insane, Montreal, Quebec.

ARNOLD, JOHN A., resigned as General Medical Superintendent of the Kings County Insane Asylums, Kings County, N. Y.

ATWOOD, CHARLES E., formerly Third Assistant Physician at the Utica State Hospital, appointed Second Assistant Physician at the Bloomingdale Asylum, New York City.

ATWOOD, LEGRAND, removed from Superintendency of the State Lunatic Asylum, Fulton, Mo.

AYRES, J. H., resigned Superintendency of the Columbus Asylum for Insane, Columbus, O.

BAKER, EMMER VIRGINIA, appointed Assistant Physician at the Maine Insane Hospital, Augusta, Me.

BISHOP, A. C., resigned as Assistant Physician of the Kings County Insane Asylum, Flatbush, N. Y.

BOOTH, CHARLES E., resigned the Superintendency of the Northern Hospital for the Insane, Winnebago, Wis.

BROWN, JOHN Y., appointed First Assistant Physician of the Central Kentucky Lunatic Asylum, Lakeland, Ky.

CARUTHERS, FRED., appointed Interne at the Maryland Hospital for the Insane, Catonsville, Md.

CLAUSINS, M. F., resigned as Second Assistant Physician of the Northern Hospital for the Insane, Winnebago, Wis.

COLLINS, MOSES, resigned as Second Assistant Physician of the Central Kentucky Lunatic Asylum, Lakeland, Ky.

CONTERNO, GEORGE W., appointed Assistant Physician at the Kings County Insane Asylum, Flatbush, N. Y.

CRUMBACKER, W. P., removed from Superintendency of the Athens Asylum for the Insane, Athens, O.

DENSCHLE, W. D., appointed Assistant Physician at the Columbus Asylum for Insane, Columbus, O.

DOANE, L. L., resigned as Third Assistant Physician of the State Hospital for the Insane, Warren, Penn.

DUNLAP, C. O., formerly Assistant Physician, promoted to the Superintendency of the Athens Asylum for the Insane, Athens, O.

DURHAM, ALBERT, formerly at the City Asylum on Blackwell's Island, appointed Clinical Assistant at the Bloomingdale Asylum, New York City.

EVANS, S., formerly First Assistant Physician of the Central Kentucky Lunatic Asylum, Lakeland, Ky., appointed Physician in Charge, High Oaks Sanitarium, Lexington, Ky.

FLEMING, WALTER S., formerly Medical Superintendent of the Kings County Insane Asylum, at Flatbush, appointed Acting General Medical Superintendent of the Kings County Asylums, N. Y.

FRANCHERE, F. E., resigned as Assistant Physician of the Second Minnesota Hospital for the Insane, Rochester, Minn.

GAYDEN, AGRIPPA, formerly First Assistant Physician, promoted to the Superintendency of the Louisiana Insane Asylum, Jackson, La.

GIERE, E. O., appointed Assistant Physician at the Second Minnesota Hospital for the Insane, Rochester, Minn.

GILL, CHARLES A., appointed Second Assistant Physician at the Northern Hospital for the Insane, Winnebago, Wis.

GRAY, JAMES E., removed from position as Assistant Physician at the Kings County Insane Asylum, Kings Park, N. Y.

GULLY, H. G., resigned as First Assistant Physician of the East Mississipp Insane Asylum, Meridian, Miss.

HOLLOWAY, SAMUEL, appointed Third Assistant Physician at the Central Kentucky Lunatic Asylum, Lakeland, Ky.

HUNTER, WALLACE R., appointed Third Assistant Physician at the State Hospital for the Insane, Warren, Pa.

HUTCHINGS, R. H., appointed Clinical Assistant at the St. Lawrence State Hospital, Ogdensburg, N. Y.

KING, C. W., removed from the Superintendency of the Dayton Asylum for the Insane, Dayton, O.

KNAPP, H. J., appointed substitute at the Kings County Insane Asylum, Kings Park, N. Y.

JONES, E. H., formerly Superintendent of the Central Kentucky Lunatic Asylum, Lakeland, Ky., appointed Physician in Charge, High Oaks Sanitarium, Lexington, Ky.

LOWELL, MARY C., resigned as Assistant Physician of the Maine Insane Hospital, Augusta, Me.

NEFF, J. H., appointed Assistant Physician at the Michigan Asylum for the Insane, Kalamazoo, Mich.

NERHBAS, FRED. M., appointed Assistant Physician at the Kings County Insane Asylum, Flatbush, N. Y.

NORRIS, MILTON D., appointed Interne at the Maryland Hospital for the Insane, Catonsville, Md.

PALMER, HAROLD L., appointed Third Assistant Physician at the Utica State Hospital, Utica, N. Y.

PERKINS, L. G., resigned Superintendency of the Louisiana Insane Asylum, Jackson, La.

PERRY, C. E., appointed Assistant Physician at the Kings County Insane Asylum, Flatbush, N. Y.

PORTER, W. O., appointed First Assistant Physician at the East Mississippi Insane Asylum, Meridian, Miss.

PUSEY, H. K., appointed Superintendent of the Central Kentucky Lunatic Asylum, Lakeland, Ky.

RAY, F. E., appointed Interne at the Central Indiana Hospital, Indianapolis, Ind., formerly Superintendent of the Athens Asylum for the Insane.

RICHARDSON, A. B., appointed Superintendent of the Columbus Asylum for Insane, Columbus, O.

ROMSPORT, ——appointed Superintendent of the Dayton Asylum for the Insane, Dayton, O.

SCALLY, J. H., appointed Interne at the Maryland Hospital for the Insane, Catonsville, Md.

SIMS, MORGAN, appointed Third Assistant Physician at the Central Kentucky Lunatic Asylum, Lakewood, Ky.

SMITH, E. J., resigned as Assistant Physician of the Kings County Insane Asylum, Flatbush, N. Y.

SMITH, EUGENE, appointed Second Assistant Physician at the Central Kentucky Lunatic Asylum, Lakeland, Ky.

STATLER, O. P., appointed Assistant Physician at the Michigan Asylum for the Insane, Kalamazoo, Mich.

STEELE, WHITMORE, appointed Fourth Assistant Physician at the Utica State Hospital, Utica, N. Y.

THOMPSON, E. B., appointed Assistant Superintendent of the State Insane Asylum, Topeka, Kas.

TOBEY, H. A., appointed Superintendent of the Toledo Asylum for Insane, Toledo, O.

TUPPER, C. E., removed from the Superintendency of the Toledo Asylum for the Insane, Toledo, O.

WADE, J. PERCY, appointed First Assistant Physician at the Maryland Hospital for the Insane, Catonsville, Md.

WAGNER, CHARLES G., formerly First Assistant Physician at the Utica State Hospital, promoted to the Superintendency of the Binghamton State Hospital, Binghamton, N. Y.

WEGGE, WM. F., formerly First Assistant Physician, promoted to the Superintendency of Northern Hospital for the Insane, Winnebago, Wis.

WELLS, JACOB W., appointed Fourth Assistant Physician at the Iowa Hospital for the Insane, Independence, Iowa.

WENTWORTH, L. F., formerly Assistant Superintendent of the Topeka Asylum, promoted to the Superintendency of the State Insane Asylum, Osawatomie, Kas.

WHITE, F. S., formerly Assistant Superintendent of the North Texas Hospital, Terrell, Texas, promoted to the Superintendency of the State Lunatic Asylum at Austin, Texas.

WHITE, WILLIAM A., appointed Assistant Physician at the Binghamton State Hospital, Binghamton, N. Y.

WILLIAMS, HENRY SMITH, formerly Second Assistant Physician of the Bloomingdale Asylum, New York City, promoted to the Superintendency of the Charitable Institutions of the City of New York upon Randall's Island.